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model car *Science*

MARCH 1967

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Volume 5, Number 3

March, 1967

ON THE COVER — MPC has gone and won a heap big stack of points in the scale game, with their version of the Mako Shark II. It's easily a front runner for the title of best kit of '67! And what else is happening? Rocket racing, for one. It ain't new, but it's back! The blast off shot was caught by Phil Willen.

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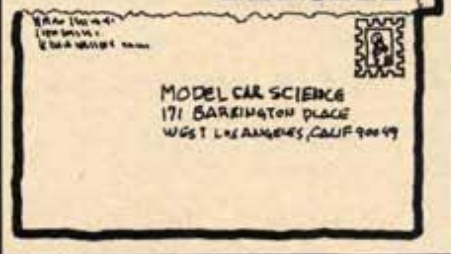
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model mail



HOW'S THIS FOR A TIP

In your December issue you had an article on how to thin paint for darkening backgrounds behind grills, etc. Instead of using paint, why not use liquid shoe polish? Buy a bottle with an applicator tip, dip it in, and spread it on. If you get bubbles, just blow gently on the surface until they disappear. It worked great on my models!

J. Mittelstaedt
Phoenix, Ariz.

Thanks loads, J. M. There you are guys, what could be easier? Any of you readers who come up with a brainstorm like ol' J. M. had, fire it in here. We'll be glad to run it.

WANTS SPEEDY'S ADDRESS

I have looked in all of the back issues of MCS for Speedy Gonzales' address. I have a few questions that I would like him to answer. Can you help out? I value his opinion.

Don Iammarino
East Cleveland, Ohio

Just send your request to Speedy Gonzales, C/O Boy Editor, MODEL CAR SCIENCE, 171 Barrington Place, West Los Angeles, Calif. 90049. We'll see to it that Speedy gets it. And if there's one thing ol' Speedy is good at, it's giving his opinion!

YOU'RE OUT OF LUCK

You guys have a real fine mag. Maybe you can help me out of a bind. None of the stores near where I live stock Champion (of Georgia) products. Where can I send for this stuff?

Mike Bonura
Malverne, N. Y.

You can't Mike, ridiculous as this seems. Champion has the unusual policy of selling only to raceways. We don't mean hobby shops, we mean raceways, one that features a track. If there's a hobby shop in your town, but it doesn't have a track, forget it. They won't sell to individual fans either (few manufacturers will), so you're out of luck.

TRACK CONDUCTOR

I'm building a home track. Your sister mag, MC&T (sorry, I occasionally read some other mag) mentions the use of copper tape for conductor strips. Where can I get it?

Jeffery Wright
Chesapeake, Va.

Try your local hobby shop first, Jeff. If they don't have it, you can buy it at the mail order houses. The local mail order house out here, Western Hobbies (PO Box 49978, LA, Calif. 90049), carries copper tape with adhesive backing, 90' for \$4.95. Include 50¢ handling.

SLOT RACING FOR PENNIES

I'm in desperate shape (money wise) but I'm absolutely nuts about slot racing! Now then, I need a controller. Naturally, I'd like to have a good one, but the pocketbook dictates! Who makes the absolute cheapest (money wise, not quality wise) controller on the market, that works? I want it to run pretty hot motors.

Ted Tamaris
Glendale, Calif.

You're in luck, Ted. You other fans with similar problems, pay attention. An excellent controller is now on the market, that is also the cheapest on the market! Hard to believe, but true. Russkit's Formula 2 controller is a bargain at \$3.50; but listen to this! Now they sell this same controller in kit form, for just \$2.75! Same controller, and it only takes a few minutes to put it together. It's a 15 ohm unit, which will handle a pretty hot motor. If you can't find it, the mail order houses will have it.

DON'T SEND MONEY!

I would like to know if I could order some racing decals from you? How much should I send?

Randy Lowe
Beckley, West Va.

DON'T send money to us, Randy, and that goes for you other guys too! We don't stock anything here, we just put out the best mag we know how. You'll only slow your order down considerably, as we'll just have to re-route it to the manufacturer or a mail order house. Send direct to them, or buy it at your local hobby shop.

WE SHOULD RUN THIS LETTER EACH MONTH!

What do I have to do to get my groovey '57 Chev into your model of the month contest? Do I send you the car? If so, how do I wrap it so it won't get all busted up?

John Fleming
Cedar Rapids, Iowa

We get tons of mail each month about this same subject, John. Don't send the car. Just take a good black and white photo (it can be any size you want, but a 4 x 5 or similar is plenty big) plus a description of the

continued on page 6

Who is working overtime to give you better performing—better looking—better all 'round—racing models?

This new Lola T-70 says it's Monogram!



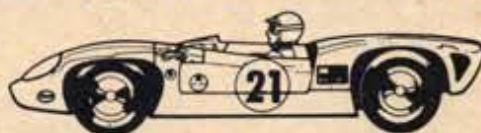
Eric Broadley's Latest Sports Racing Machine in a Winning 1/32 Scale Model With Many New Speed and High Performance Features

The Lola is the newest racer in the Monogram quality tradition. It's an extraordinary model and a terrific performer on both home and commercial tracks.

The low profile body, wide track and exclusive tested new engineering developments and improvements make it a super fast and sweet handling winner.

This is one slot racer you can go for and be happy with your choice. See it at your favorite store.

Kit SR3212 • \$7.00



Super X-110 eight volt motor with special winding for rpm up to 40,000, turned bakelite commutator, enlarged drive shaft bearing, improved brushes and brush holders.

Precision machined aluminum wheels.

Tiger traction tires with "extra wide" on rear wheels.

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All-brass rigid frame, with low center of gravity for best cornering capabilities.

Steel rear axle carrier locked to self-aligning motor bearing keeps axle, pinion and gear in perfect alignment. Weight over rear wheels provides positive traction.

Swing pick-up with adjustable pick-up spring.

The finest 1/32 scale slot racing cars are made by Monogram.

See them at your dealer—Porsche 904—Ferrari 275P—Ferrari Formula 1—Ferrari 250 GTO/LM—Ferrari 330/PLM—Lotus Formula 1—Cooper Ford—Lola GT—Ford GT—and the new Lola T-70. Each \$7.00. Monogram Models, Inc., Morton Grove, Illinois.



March 1967 / 5

car, to the Contest Editor, **MODEL CAR SCIENCE**, 171 Barrington Place, West Los Angeles, Calif. 90049. No color shots please. We can't use them.

GAS ENGINED MODEL CARS?

I have been looking at the model mags, but haven't seen anything about gas engined model cars. Would you kindly send me something about it, if you have any info?

Mark Graham
Wheeling, West Va.

Cox makes gas engined model cars, Mark. Write directly to them for info. They have a splendid Chaparral and Ford GT, and in fact, sell a complete track and the works! It takes a bit of room to lay this giant out, but if you have the space, these cars are a ball! They sell for \$9.98 and \$10.98, without track.

JOIN A CLUB

I'm new to the sport of slot racing, and totally confused! Your mag helps a great deal, but I feel I could really learn a lot if I joined a club. I haven't been able to find one locally, but I realize a lot of them don't advertise for members. I would appreciate any one in my area who could help, to contact me call JU-1-0225. Thanks.

Steve Lynch
56 Bittermint St.
Islip, New York

We've printed your full address, Steve. Hope you find the right group. It's a problem, we realize. Check the 1967 MODEL CAR RACING HANDBOOK for a complete section on how to start a club.

And you static builders! Have you fellows ever thought about banding together in clubs? This type of club is very rare. Surely many tips could be exchanged, and a great deal of enjoyment could be yours if you got together with a few other static builders, to discuss mutual problems. Any one tried this? Let's hear from you.

NEEDS STYRENE PLASTIC

I'm a newcomer to static building. Where can I get styrene plastic sheets? I've looked all over for this stuff, and no one seems to carry it!

Joseph Ribaudo
West New York, N. J.

Sure, we can tell you where to get it, Joe. Send a self addressed stamped envelope to Western Hobbies (see their address listed in one of the other letters to the editor, in this section). They carry a complete range of this stuff. They'll send you their price list free, providing you include the self addressed, stamped envelope.

HE DIGS THE "PORTFOLIO OF CHAMPIONS" SERIES

Your June issue had an article on the Porsche 904 ("Portfolio of Champions") which I read with great interest. What happened to this series? How about one on the Lola T-70 or the Ford GT?

Dave Van Sickle
Schenectady, N. Y.

Okay, Dave. We'll see what we can do. We got sidetracked away from this interesting series, somehow. We'll revive it from time to time, when an especially interesting car comes along. And come to think of it, a Lola T-70 is an interesting car! Hang loose, we'll get right on it!

MODIFYING THE "DINO"

I've been trying to think up ways to modify my Strombecker 1/32 "Dino." In the December '66 issue of your cool mag, Speedy Gonzales mentioned Ray Hoy's modified Dino. Could you tell me the part numbers and price of the guide shoe, tires, wheels, and ball bearings that Ray used?

I just bought your '67 MODEL CAR RACING HANDBOOK, and it's fantastic! It tells you everything you need to know about racing, in one book.

Steven Ducat
Verdun, Quebec, Canada

Thanks for the compliment, Steve. Ray used Revell's R-3507, 60¢ quick-change guide shoe (1/8" shank); a Hemi "300" motor, part number 8531, \$4.95; Russkit #761 front tires, 50¢ a pair (Ray reports he likes Monogram's SR1004 front tires just as well, and they're easier to find. They're 60¢ a pair.). The rear tires and wheels are Cox #3274, 7/8" OD, soft, at \$1.29 a pair. Ball bearings were 1/8" bore S-K-F's, priced at \$3.40 a pair. Front wheels are shortened Cox mags, #15014, at 98¢ a pair. All in all, a very expensive car, but it does GO! Oh yes, one vital change that Ray forgot to mention. He used a Cox #4143, 33 tooth crown gear, 50¢, and a CorBen 7 tooth, .078" pinion, 15¢. Strangely enough, after all of the expensive changes, he reports that the two things that made most of the improvement in handling and speed, were the Cox rear tires/wheels, and gear! And they won't break you financially!

WARNING!

I'm fairly new to slot racing. Could you tell me how to rewind a Strombecker Hemi "300"?

Warren West
North Hollywood, Calif.

We'll level with you, Warren. If you're new to the sport, cool it with that Hemi. It's already an extremely hot motor, and we recommend that you learn to handle it "stock" first. It's actually a misnomer to call this motor "stock," because Strombecker has done their best to hop this thing up, and they've succeeded. A stock Hemi "300" in the right chassis is a contender for the gold on anybody's track. Get some racing under your belt, and a few months from now, if you think you're ready, maybe you

could take a shot at rewinding. Frankly, we don't think you'll see much improvement, since the winds are already pretty wild.

TRUE, TRUE

In a recent issue you stated in a reply to a reader, that Aurora makes a 2-D Chaparral in H.O. scale, #1377. I would like to point out that at this time Aurora does not have a 2-D. Their #1377 is a Chaparral roadster, not the 2-D coupe.

Elliott Krug,
General Manager,
Village Hobby Shop
South Orange, N. J.

Is our face red! You are so right, Mr. Krug. Thanks for being so sharp-eyed. We are chastizing our proof readers thoroughly about the head!

WHAT DO YOU REALLY NEED?

I want to start building static models. Don't kid me now, what do I really need to build good models?

Terry Blanchard
Panama City, Fla.

You need, most of all Terry, patience. Other than that, a tube of glue, a few pieces of very fine sandpaper, and an X-Acto knife (#1), and that just about does it! A few rubber bands come in handy, for holding parts together while they dry. Oh yes, and one tube of body putty. Static building is a very inexpensive hobby, and a fine one too. Just remember, no amount of tools ever replaces careful craftsmanship.

THIS FELLOW LIKES TO DRAW

First of all, I'd like to congratulate you on your fine mag. Keep that price down! Now, down to business. How about putting on a contest for drawings of original-design cars? A lot of us cats like to draw cars, and I think it would go over big!

Randy Campbell
Lima, Ohio

We don't know about the contest bit, Randy, but if you have a drawing or two that you think is worthwhile, send it in. We're always glad to look this kind of work over. On clean white paper please, and in black ink. Send it flat. If you want it returned, be sure to include a self-addressed, stamped envelope.

WANTS A 1/32 WILLYS

There are a lot of 1/24-1/25 static models around, but it seems to me, darn little 1/32 scale, in shelf models! Where can I get a Willys coupe, for instance?

Terry Blanchard
New York City, N. Y.

Haven't you ever eyeballed the Pyro line, Terry? They make zillions (well, several dozen) different 1/32 static models, for like 50 cents! Also, Monogram has just released a really boss line of 75-cent 1/32 static kits, including that beautiful Willys you want!

SLOT RACERS

WIN

aj's 500 CONTEST *DASH FOR CASH*

...LOOK AT THIS LIST OF GREAT CASH
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10—Fifth Prizes

Aj's Championship Jacket

10—Sixth Prizes

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Hot Ready to run 1/24 Scale Car

10—Ninth Prizes

Hot Ready to run 1/32 Scale Car

15—Tenth Prizes

Hot Ready to run H.O. Scale Cars

In addition to these big prizes, everyone who enters this contest will receive a free copy of Aj's new booklet "In The Winner's Circle". Enter now! You may be a winner.

ask your
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**ENTRY
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Just write, in 100 words or less,

"Why I Like Aj's Tires Best"

Rules: Entry blanks must be secured from slot racing centers and accompanied by stamped, self addressed envelope if entrant desires list of winners at close of contest. Foreign entries are acceptable if written in English or accompanied by a certified translation. All entries must be accompanied by proof of purchase (tear off card) or reasonable facsimile and multiple entries may be submitted if accompanied by proof of purchase for each entry. All entrants will receive copy of booklet "In The Winner's Circle." All entries become the property of Aj's National Raceways and must be submitted by February 28th, 1967. Open to all but employees of Aj's National Raceways and its advertising agency. Contest to be judged by competent experts of 3 leading magazines devoted to slot racing.

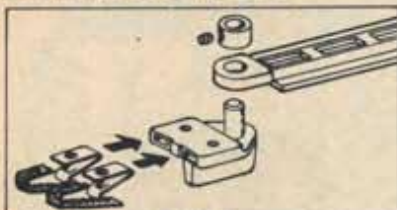
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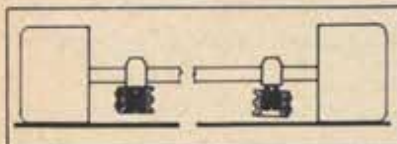
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REAR WHEEL & TIRE COMBO, EXOTIC RUBBER

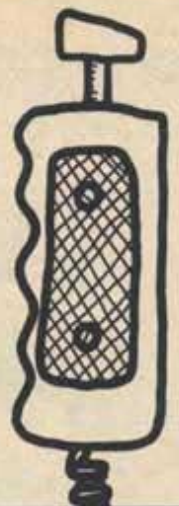
Our famous Dyna-Grip formula now available in 5/8" width. Glued and ground. \$1.29/pair (Cat. no. 668)



A SUBSIDIARY OF RMI CORPORATION
13755 Saticoy Street, Van Nuys, Calif.

By Chris Chan

SPEED & TECH



THE CAMRA SEASON ENDS

An ambitious group of track owners and slot car manufacturers in southern California have formed into an organization known as CAMRA. Dividing the raceways into three leagues, each having races on Friday nights, they hoped to gain some sort of recognition by becoming a large group. Races restricted to modified kits or ready-to-runs alternated with those for open class cars each week, drawing as many as fifty entries into the crowded raceways.

The competition was first rate all the way through its kickoff season. Despite some runaways in the store championship and some rather late night racing (the main event I found myself in at Revell Raceways ended sometime around 3 in the morning) almost all of the participants were happy with the results. Hopefully CAMRA's backers won't let the initial problems bog down the next season, and then west coast slot racers can see some really topnotch racing.

MOTOR REWORKING BIG AGAIN

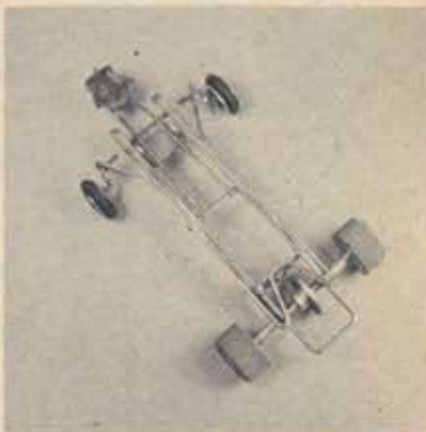
It seems that all progress in slot racing is made in distinct steps in each area of car. While tires have been in limelight for quite awhile, motors are now far and away becoming the area to fool around with. Rewinding has become more or less a fact of life for the popular Russkit 23's and Hemi 300's. Wire sizes have increased from #30 to #29 and #28 with turns of 60 to 50.

Some rewind pros claim even better results by double winding. This method uses wire three sizes smaller than what is intended, such as #32 instead of #29, wrapped twice. In simpler terms, take 60 turns of #32 wire and then wind 60 more right on top of it.

Experimenters have tried different sized wires and different amounts on the same pole and swear that they get superior results. The MCS team sticks mainly with

about 7-1/2 feet of heavy formvar #29 and tinkers with other little things, like timing, magnets, and balancing.

While French and Champion of Georgia magnets are fairly easy to work with, a lot of people get into all sorts of trouble when it comes to timing. The best possible suggestion to those that have never tried it before are the fine pre-timed comms now available. Nothing works better then experimentation for getting optimum results, but the 11° does a good job on almost all big tracks.

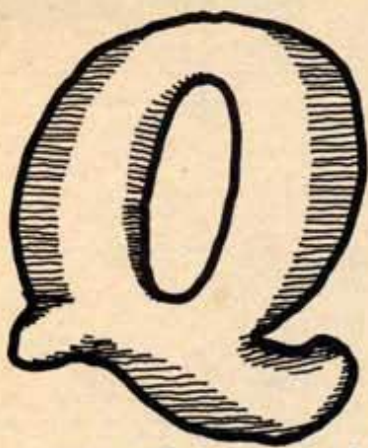


WHERE HAVE ALL THE LIGHTWEIGHTS GONE?

All of this motor reworking going on has had one detrimental effect. Keeping all of the power these super-mills put out is difficult with the flimsy lightweights a lot of people love so much. The answer may come in many forms, but the most likely we've seen are perimeter frames in the comeback of the sports car.

Open racing, once the private stomping grounds for the sidewinder sports cars lost out to the lighter in-line G.P. machines in recent matches. Now we are running several designs of sports car types with a good deal of success. Rewound Hemis (58 of #29) with Winner's Circle beryllium copper springs supply the punch, but the race winning factor is the car's fantastic trackability.

The handling and maneuverability of the perimeter type chassis almost totally eliminates the inherent touchiness of lighter cars. The perimeters run in the team Chaparrals are fabricated out of 1/16th and 3/32nd brass rods (check the welding supply if your track doesn't carry rod) and 5/8ths Rigger greys. The Cor-Ben pick-up works in beautifully for long brush wear. The handling of these cars is sano, with all sorts of fun-style drifting and almost real power sliding around like a dirt tracker, but don't be fooled by the sports car shell, one of them has already established a record of open event victories. Model Car Science's team is also preparing an article on the entire car from the slot up.



modelers' QUESTION SESSION

By Don Emmons

Q I would like to know your feelings on whether it is important to paint the chassis and parts on the underside of a model since they are not seen. If so, what color do you suggest for this?

BOB HOPKINS
Seattle, Wash.

A Detailing the underneath of a model is a must as far as I'm concerned, especially so if you plan to enter any contests. For contests, it must have such details as brake lines, fuel lines, exhaust system, etc. You can achieve realism by spraying the chassis flat black, holding the can or gun far enough back to give a stippled effect to simulate under-seal coating. Use a brush to paint the frame white and install a chromed or painted rear end depending on the kit. Small copper wire is perfect for brake lines, etc. By painting the ends near the backing plates with flat black, you can simulate the flex hose part of the brake system.

Q How do you glue Corduroy cloth to plastic for a custom interior? I tried both types of plastic glue, but the liquid would

not hold the cloth down and the tube glue soaks right through. Do you have any suggestions on this?

ROGER BREWER
Chicago, Ill.

A Try a rubber cement for this type of job. It will hold very well without harming the material. And if you get too much glue on, the excess can be "rolled" off. Also, try using ordinary "grosgrain" ribbon for upholstering seats. It comes in many colors and widths, and looks great for custom upholstery.

Q Referring you to the Dec. '66 issue on page 27 (top, left), what is the name of the car and which company makes the model? I would also like to know if there is a 1929 Sport touring top on the market. You put out a tuff magazine.

SCOTT MURNAN
Shelbyville, Ind.

A The model you are referring to is a customized version of the Monogram Uncertain "T" kit. You must have missed our Jan. '67 issue as there was a large section devoted to this kit including the real rod. Regarding the '29 touring top, I imagine you mean the Model A top, don't you? The closest thing to this would be Monogram's 1930 Model A Phaeton kit which contains a stock top.

Q I'd like to know where I can get plastic sheets for customizing my models. I wonder if you could tell me where are some Mail houses in Canada, maybe I'll have better luck there. I tried everywhere to find some sheets but with no luck. Even if I am French, I enjoy your magazine's interesting articles.

YVES GRIGNON
Lachine
Prov. of Quebec, Can.

A I am sorry, but I do not know of any supply houses in Canada where you might get sheet plastic. However, you can order it from Auto-World. They stock a wide selection, including a special assorted sheet pack for 98¢. (Has assorted sheets and each is at least 3 x 5 inches.) The address is: Auto-World, Box 961, Scranton, Pa. 18501.

Q Will AMT's '67 Falcon fit on the trailer from M.P.C.'s Mako Shark?

DAVID WALLICH
Grover Hill, Ohio

A You will have no trouble with the '67 Falcon fitting onto the Mako's trailer. It fits well as do most other models in 1/25th scale. I've tried others on it like the Revell Anglia, M.P.C.'s '33 Chevy Panel truck, AMT's Camaro, etc., and each of them looks right at home atop the trailer.

Q Could you please tell me if any company is going to make a Volkswagen model? In the Dec. '66 issue you had an article about removing scratches from windshields with toothpaste. O.K., I tried it, how do I clear the cloudiness from them after they are dry?? Thank you — your magazine is great!

GARY KIRCHNER
Dorchester, Mass.

A Sorry you ran into trouble in removing scratches from the windshield as described in the article. I have been using this method for a long time now and have had excellent results in cleaning off the clear plastic. Perhaps you should try another type of toothpaste as some tend to be a lot more coarse than others. Use the finest consistency you can get and rub it gently, but with enough force to remove the marks. Maybe you are rubbing too hard. As for your other question, M.P.C. has a kit of the wild little VW bomb.

Q Can you please send me the addresses of mail order houses that sell Brass tubing cutters, or tell me where I can buy one?

LLOYD SOBEL
Roslyn Harbor, N. Y.

A You should be able to get the tubing cutter at Hardware stores or an Auto Parts shop as they use them to cut copper tubing. If you still cannot find it, you can order it from Auto World. You can get a general all purpose tubing cutter that will cut tubing from 1/16 inch to 1/2 inch for \$2.49. International Engineering (Box 1025-Q, Redondo Beach, Calif. 90278) has an excellent one also, for the same price.



1931

BY **JO-HAN**

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the WORD from the PIT

By Speedy Gonzales
(Fastest Thumb in the West)

FINALLY! OL' SPEEDY'S "SPECIAL" HAS MADE IT INTO PRINT. Check this issue for this great (and inexpensive!) little 1/32 bomb. It's a natural for home tracks, plastic or routed. It's simple, rugged as a rock, and man, it handles! I'd like to hear from you fellas who decide to build it.

As soon as I finish whacking out this column, I'm going to pack my threadbare old carpetbag and board one of the big birds that ride on a tail of fire, for the great "Windy City" of Chicago. The bird will have a cold tail when we land, cause man, it's *cold* in those parts in mid-winter! I'm going back for the yearly hobby show, of course, and I'll be snapping pictures and taking notes like a shivering IBM computer, all the time I'm there. When I'm satisfied that my espionage is complete, I'll hustle back to the land of milk and honey (Californy, where else?) and pour out my heart to the boy editor. You'll get the latest news as soon as we can rush it into print.

And man, it should be a gassy year for slot racing! The machinery gets better and better until it seems impossible to improve it — yet every year they do! Don't forget, amigos, our sport is relatively young, and we've hardly begun to scratch the surface of chassis and motor development! Slot racing, five years from now, will be a completely different world, believe me! You'll see nothing but *quality*, high performance, smashing looks, and believe it or not, even reasonable prices! It's all part of the evolutionary process that every new industry goes through. To stay in competition the companies will have to offer the customer loads of enticing features at a competitive price. Now guys, *that* sounds good, right? Stick around, the fun's just beginning!

1/32 racing is enjoying a tremendous come back! (Listen to that Rodriguez fella back East cheering!) Hoy and Siposs walk around with dreamy, silly grins from ear to ear, and an "I told you so" attitude. But if you are a 1/24 scale buff, 12 / model car science

you don't have to get all sweaty, because there is still a landslide of "big scale" items pouring in over the transom. Classic for instance, updated their Asp (see Richard Helm's report in this issue — Ed.) as did Testor with the beautiful Honda GP car. Their brutish Ford "J" car is a real handful of muscle and speed too. Check it out if you dig 'em "big and hairy," like I do!

Suddenly Monogram is deep in the "thingie" business! Their new "Snake" 1/24 scale RTR is a good looking device. I have to admit. A *real* car would look pretty good if it followed this configuration! The "Snake" makes a doubly dead-



ly companion to their "Vampire." However, if the companies keep coming out with these viciously-named brutes in the future, ol' Speedy is going to start selling a bullwhip (in kit form of course) as an accessory to keep these thingies in line!

Pittman's new 6001X replacement armature slips into their can motor in nothing flat, and according to them (I haven't got my clammies on one yet) it gives you a 7500 rpm boost. At \$2.50, that's not bad!

The proposed merger between NAMRA (the sharpest national slot racing organization on the entire scene!) and NASRRA (a fine group of fellows who dig the 1/32 home racing scene) has fallen through. It's a rotten shame! The NASRRA people evidently just don't feel the need to look for members, and want none. Their's is an intimate, tightly knit group of friends, and they don't want to lose this type of "atmosphere" racing. This is certainly their privilege. However, a tie-in with NAMRA would have been a great thing, I think, and it's a shame they couldn't have made the move.

At any rate, the NAMRA steamroller keeps rolling along! This great group of racing buffs has done more for organizing slot racing than any other I can think of.

Had to laugh! Me amigo, Jose Rodriguez Jr., had some nut impersonating him in New York, recently. I never had that happen — I mean man, the guy would have to have plastic surgery, just to impersonate my nose! The big droopy handlebar mustache could be glued on, I guess, but he'd have trouble with my black, beady eyes. They only set 11/16" apart, under big bushy eyebrows. And that wide dueling scar down my left

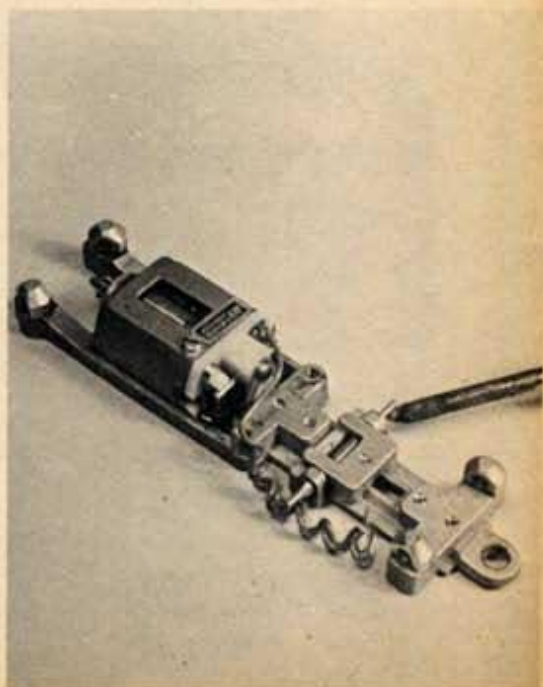
cheekbone would give his makeup a bad moment! My sombrero hides my black "cornstalk" hair, and even does a pretty good job slouching over my frying-pan size ears. And my earlobes hang down like holsters for a .44!

But waht's this have to do with slot racing? I'll tell you what! When I step up there and grab that controller, my *looks* alone are intimidating, let alone my *cars*! The competition gets to quivering like a willow in a windstorm, and that's hard on the old trigger finger (if you're a Russkit man)!

Just gave Western Hobbies' (those mail order folks) new 1/24 scale "Devastator" a thorough wringing out. Here's a *real* fine machine, for just \$8.88! This baby uses a lightweight aluminum, adjustable sidewinder chassis, with a big Mabuchi mill, and it handles and goes great! The vacuum formed modified Lotus 30 shell is pre-painted, and all-in-all, it's a fine car for such a low price. I'd like to see more good, inexpensive cars hit the market. It'd give the guy who's short on buckolas a chance to get in on the fun too.

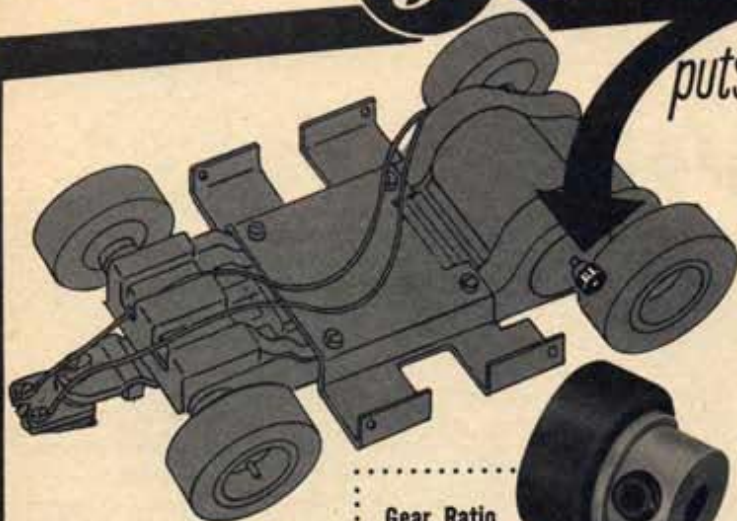
Dynamic Models has just released their new "Dynaflax" chassis to fit the new \$3.00 ball-bearing Mabuchi. That \$2.98 price tag just gasses me! What a tremendous bargain! An assortment of coil springs is available for these sprung chassis too, which really lets you tune your chassis to the track you are running on. These springs sell for just 19¢ a pair, and are available in soft, medium, or hard.

Well, time to pack my carpetbag guys! All those goodies at the Chicago show are beckoning to ol' Speedy! I'll give you the straight scoop when I return! Until then, adios.



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For a 75% boost in traction, the word going around is "Tire Bite." It's a blend of oil of wintergreen and something kinda secret worked up by Riggen Racing Team. Riggen Tire Company, who makes the skins that are big on the commercial scene, will part with a one-ounce bottle of the stuff, for 49¢. For stores, write: Riggen Tire Co., Dept. MCS, 645-Y East 219th Street, Torrance, Calif. 90502.

The three best racing rigs from Cox now come in their own complete kits. Shown left to right: 1:25 nickel plated brass tube frame with inline drive for all large "can" motors (for stock car racing); 1:24 die cast magnesium chassis with sidewinder drive for all large "can" motors (for all-out sports car racing); and 1:24 die cast magnesium chassis with sidewinder drive for all medium "can" motors (for lightweight sports cars). Each features adjustable gear ratio, sponge slicks, precision machined wheels, self-centering guide, Coxalloy gears with aluminum set screw hubs, stainless steel axles and all assembly parts.





A competition quality controller for stay-at-home racing. Features a special 30 ohm resistor, aluminum plunger which acts as a heat sink, pistol grip design, supervised case, dynamic braking, wire cord protector and alligator clips with protective boots, plus instructions for wiring to a home rig. The price: \$4.00. Where from . . . nobody but Cox. For stores and more info, write: L. M. Cox Mfg. Co., Cox Center, Dept. MCS, P.O. Box 476, Santa Ana, Calif. 92702.



Tires like for real! For the first time and thankfully at last, the scale wheel scene can get one-piece hollow tires. They look and feel like the real thing. MPC's got them, using a new patented molding process. The introduction of the 1/25 scale tires, which are Indy type with deep threads, was made with the Mako Shark kit. The same tires will also be included in Wilhelm's Wonder, a new MPC show car, and their upcoming Ford J car kit. A set of four, however, can be had separately for 50¢ by writing: Tires, MPC, Dept. MCS, 126 Groesbeck Highway, Mount Clemens, Michigan.

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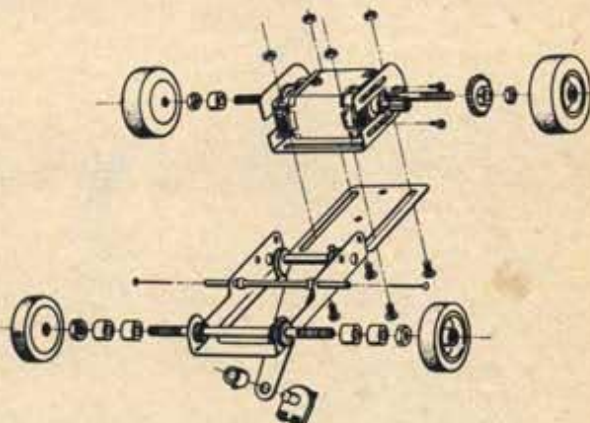
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March 1967 / 15



Turned on by all that hairy "Rat Patrol" action? Here's how to build your own war. Monogram has just released their "Combat Series" of seven kits featuring military fighting men and U. S. Army vehicles. From left to right, rear are: half-track personnel carrier, Patton tank, and 2-1/2-ton Eager Beaver truck. In front: military jeep, amphibious weasel and armored half-track. Military figures kit has 18 men with standing bases and wide variety of weapons. Jeep, weasel and figure kits retail for \$1.00. Eager Beaver truck, armored half-track and personnel carrier cost \$1.50, while the tank is yours for \$2.00.

A new sidewinder chassis, all aluminum, and fully adjustable for both wheelbase and gear ratio, can be had from International Engineering, Box 1025-Y, Dept. MCS, Redondo Beach, Calif. 90278. Designed to take the Pittman 6001, 6001-BB, Dynamic Mad Hornet, Classic 450 and 470, and all new Mabuchi 26-D motors of ball bearing type. Complete kit includes chassis, motor mounting bracket, swing arm, weighted pick-up collar, two 1/16 brass tubing body mounts, four oilite bearings and four 2-56 nuts and screws. Price: \$2.95.



SO YOU THINK THE MAKO SHARK IS GREAT...

Never has a response to a kit been so great as to the Mako Shark. It's a fantastic car . . . and a fantastic kit. Working parts, one-piece hollow tires, 25-piece transport trailer . . . this kit's got the works! No wonder it's already headed to the top of the all-time Best Seller List!



- 427 Engine
- Working front end suspension
- One-piece hollow tires
- 25-piece transport trailer
- Full front end opens
- Disc brakes
- Front wheels turn
- Roof opens
- Retractable rear bumper

THERE'S MORE IN THE KIT WHEN THE KIT'S FROM





The Bug that bites! The first really detailed kit of the little car that made it big. IMC's new, advanced "Beetle" features a host of operating parts, plus enough additional parts to build one of the wildest AA/altered coupes ever produced in miniature. This kit is molded in authentic VW red and includes a sheet of racing decals. Because of the number of operating and detailing parts, the guys in the back room do not recommend this kit for beginners... but try it anyway, and live a little. Priced probably at about \$1.50.

If your mill is sick, stick it with this stuff from Minit Grip. Their motor epoxy is easy to use with the hypo-type tube; increases rpm, h.p. and torque as well as triples armature strength. Surrounds the motor with flexible, shock resistant casing that coats, seals, strengthens and sets in less than 15 minutes. No baking necessary. And you get two clear plastic Formula 1 Pacemaker racing shells for free.

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PRACTICE
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Remove springs from back of car — carefully trim bodies with model knife — use single body for practice, or save bodies together for standard weight — paint as desired

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NEVER BEFORE! COMPLETELY CLEAR SEE-THROUGH BODY

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- 1/25 scale
- Front and rear ends open
- One-piece hollow tires
- 427 cu. in. engine
- Two front end design options
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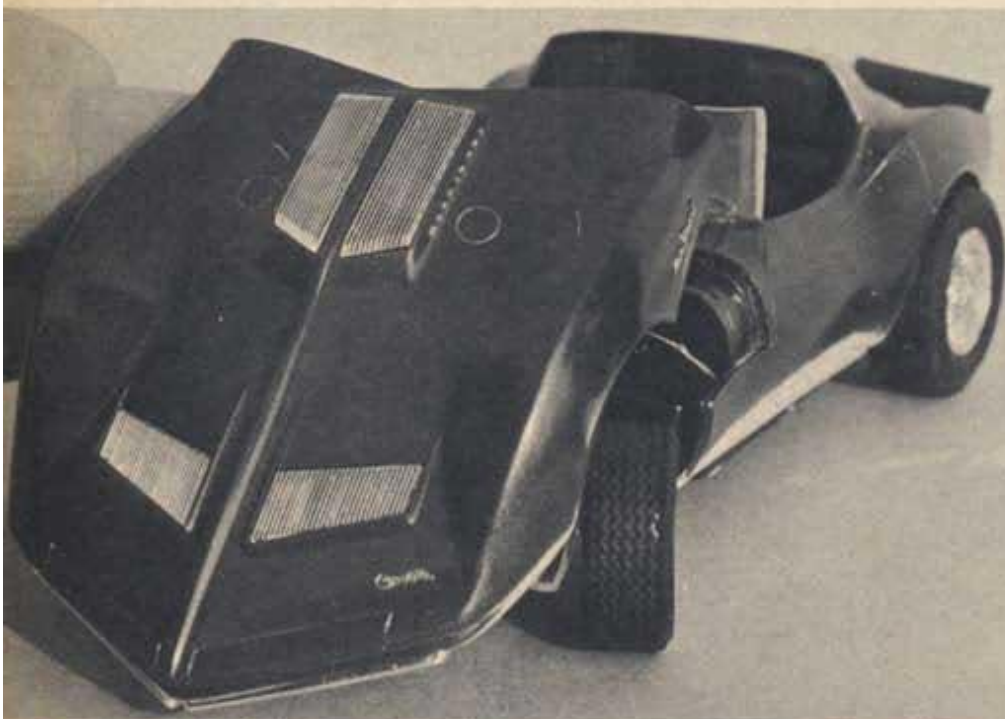
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THE HOT SHARK!



By Don Emmons

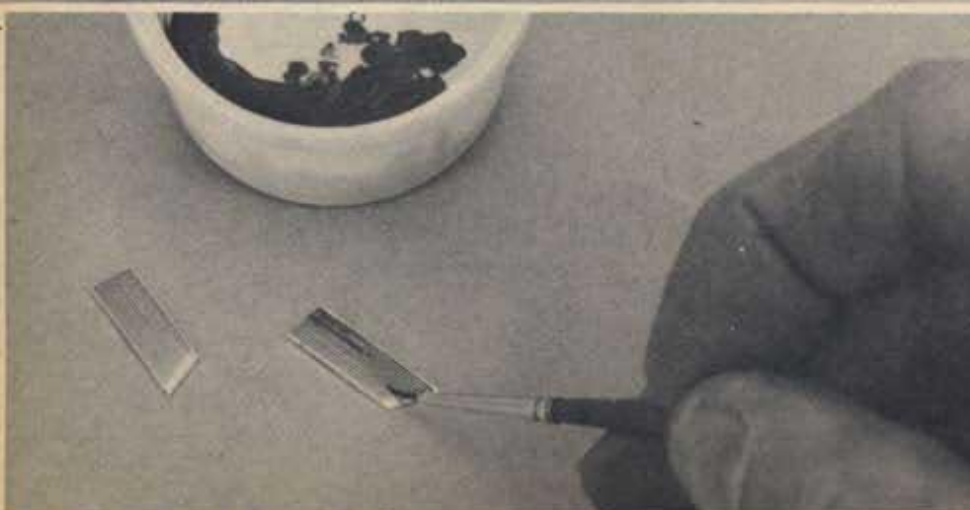
The MCS detailers haul in the powerful-looking MAKO II, Chevy's wild 'Vette for tomorrow.



THIS EXPERIMENTAL SPORTS CAR INTRODUCES A NEW SHAPE FOR THE CORVETTE, based on advancements in automotive aerodynamics. Capturing both the vibrant coloring and lean, powerful lines of its undersea namesake, the two-passenger, fastback coupe features a "flip-top" roof for easy passenger access, "hide-away" design of lights, rear bumper, windshield wipers, door latches and rear license plate, and a smoothly molded aircraft-type cockpit with contoured seats. The Mako Shark II is powered by a 425 horsepower Chevrolet Turbo-Jet 427 V-8 and is teamed with a three-speed automatic transmission. Chevrolet will not comment yet on the '68 Corvette, but with this one being so well received, I predict that you are looking at a very close resemblance to their '68.

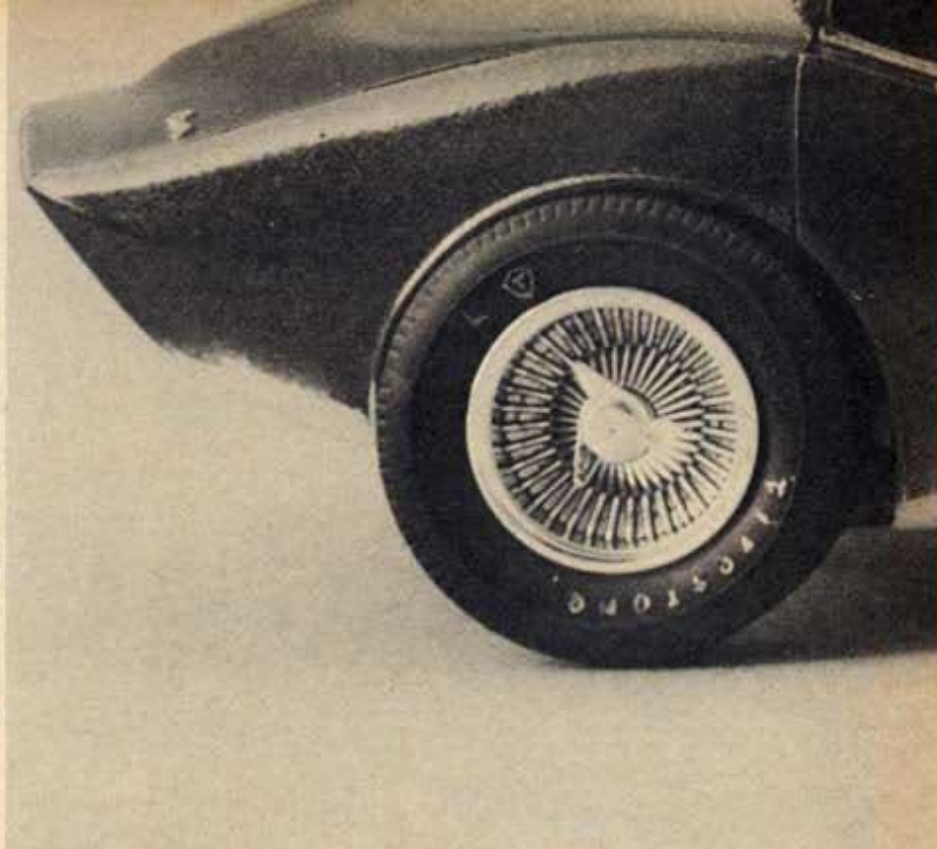
The molds of MPC have turned out still another outstanding model. The Mako Shark II is a very well detailed kit which is loaded with all the good stuff, like working suspension and steering. MPC did much the same thing with their model as Chevy did with the real thing. That being the modifying of their Corvette chassis and fitting an all new body to it. The model's coil spring up front and complete rear end should appeal to the builder who likes something more than a one piece chassis assembly. Many variations for this model are possible; from wild custom to a blown dragster. I left this one stock as I think it is a wild machine as GM built it and hope this is the prototype of the '68 Corvette.

Chrome units on hood were detailed by thinning Flat Black paint with turpentine. This mixture when painted on chrome flows into the low areas and gives a more realistic appearance. Grille also had the treatment.

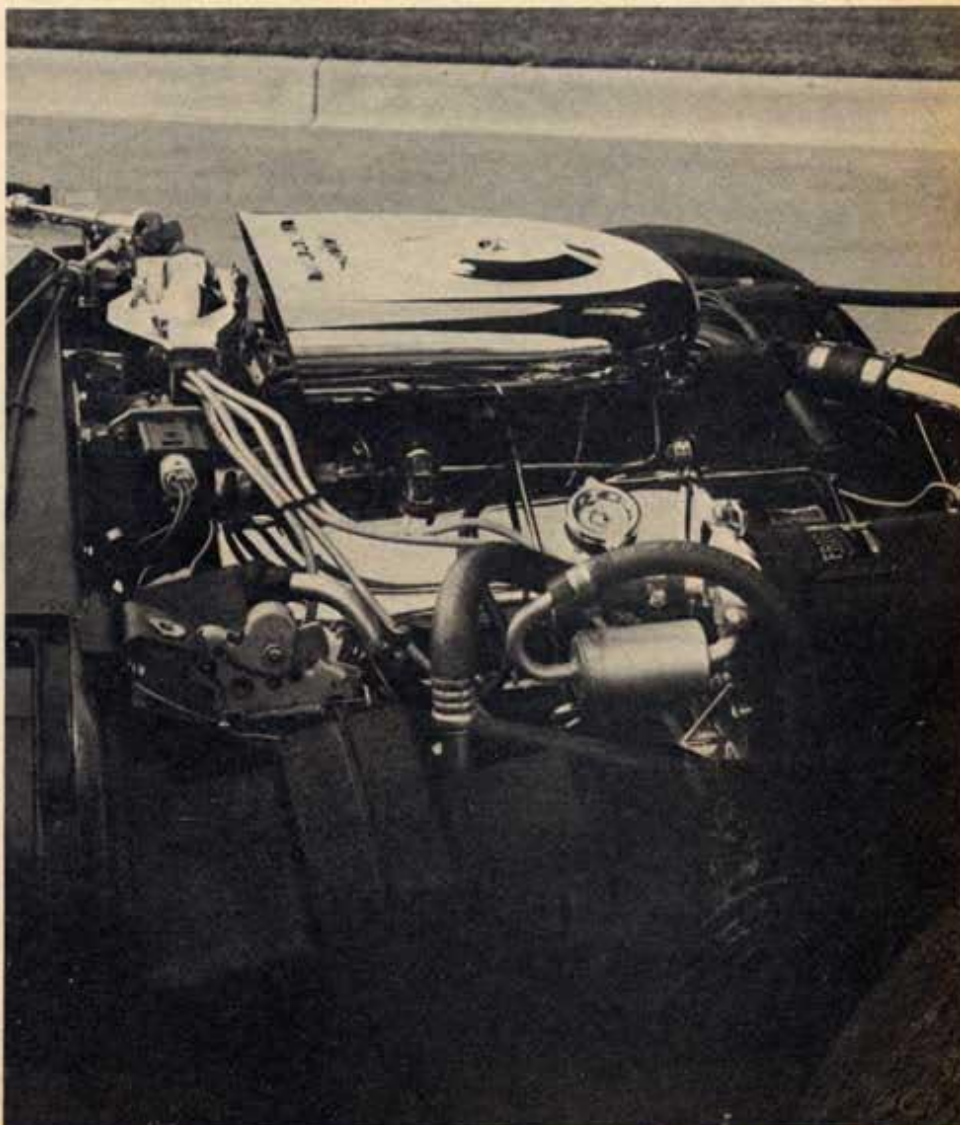


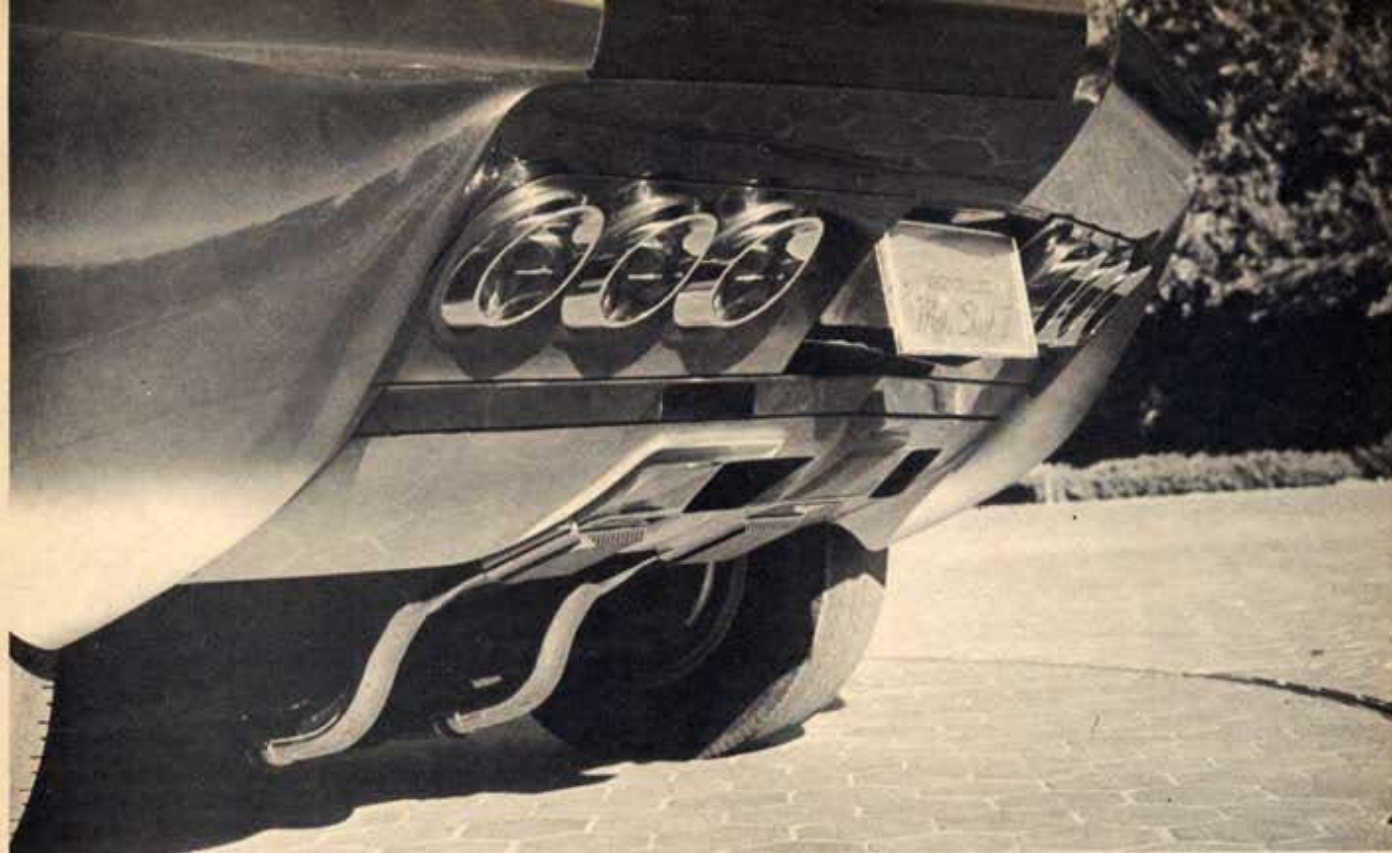


The thin finned wheels can be detailed using the same thinned black paint. The Firestone lettering on the tires was done with a very fine brush and gold paint.

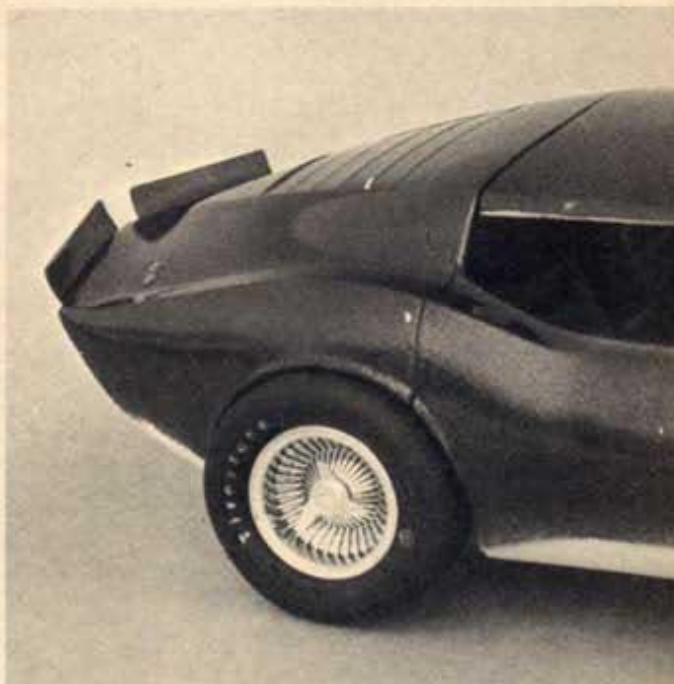


Engine compartment is painted Flat Black to duplicate the crinkle finish of the real car. The model's air conditioning unit and radiator hoses are also Flat Black. Spark plug wires are silver thread.





Small spoilers are retractable and can be raised or lowered into the body as the driver wishes by simply flicking a switch on the console. On the model you must decide which way you want them and glue them in place. Square exhaust tips have been painted Flat Black to simulate hollow tubing.



It really works! The front suspension works as you can see by these two photos. Small metal coil springs are used to accomplish this feature.





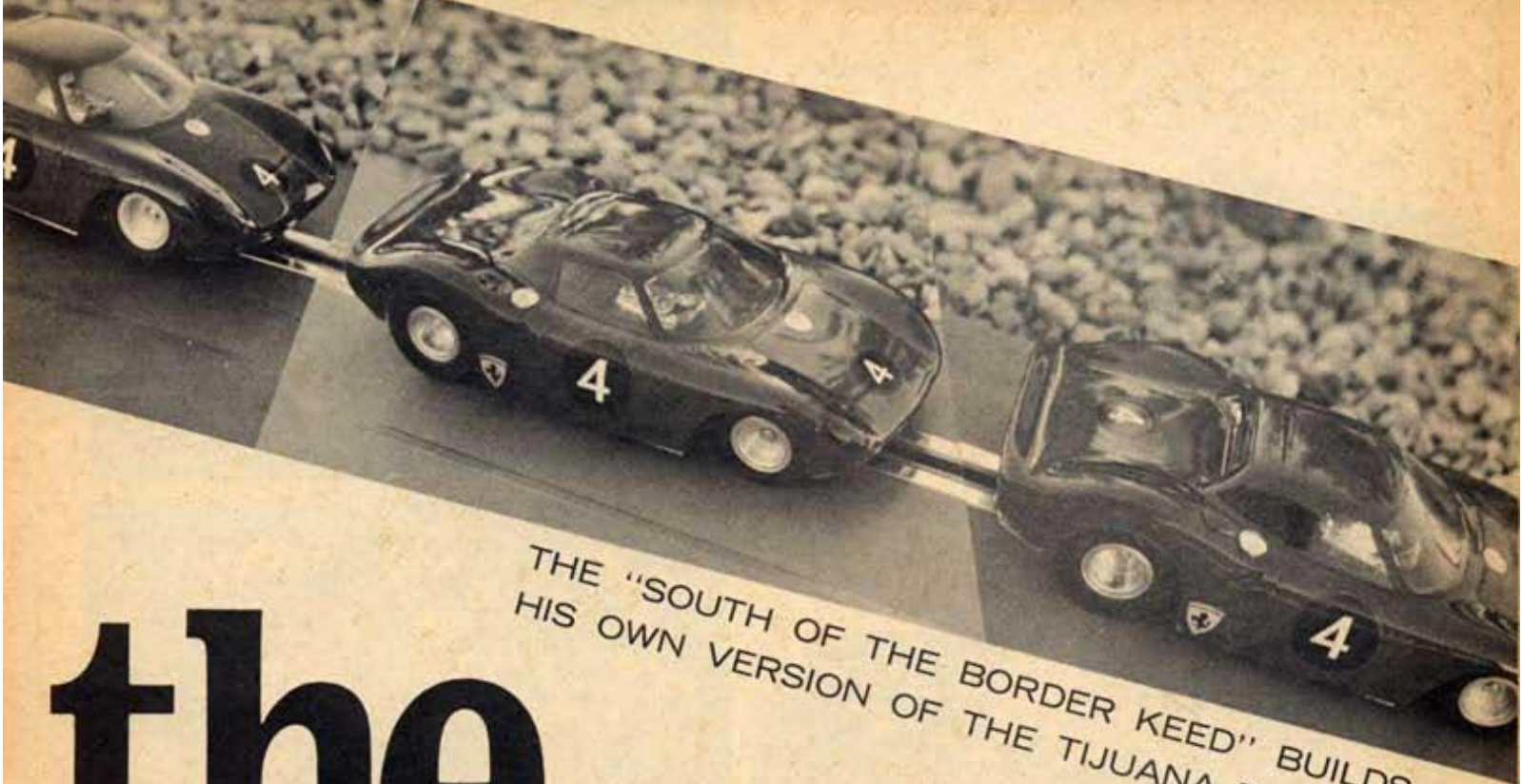
Top on real car and model can be removed. Use caution when removing the model's top so small arms will not break.

Interior is done in Flat Black and dash instruments are painted with Pactra's Chrome Silver. Windshield frame detail is also done with same chrome paint.



Paint job was accomplished by holding spray can over body, being careful not to hit lower edges of body. AMT's Burnt Charcoal Metallic was used and the lower edges were rubbed out to achieve the blended effect needed to copy the real paint job.





THE "SOUTH OF THE BORDER KEED" BUILDS
HIS OWN VERSION OF THE TIJUANA TAXI!!

By Speedy Gonzales

the \$5 speedy special

FINALLY! HERE IT IS GUYS, THE JALOPY I've been promising for months! Been so busy lately that I've been shirking my duty to all my amigos, and for that I humbly apologize. However, when you finish building this bomb, I think you'll forgive me.

Don't be afraid to add weight to this chassis, even after you finish with it. If your track offers a smooth surface that requires even more weight over the rear end, clamp or solder weight right beneath the rear axle assembly under the brass plate.

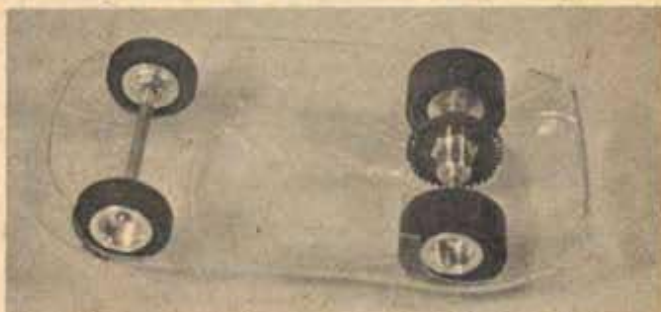
The pin pickup will make you a real believer in this method of building pickups! If you're not adventurous, just drill a center hole for a conventional pickup, and forget about the plexiglass block.

Chances are you won't have anywhere close to the money in this car that I show on the bill of materials, unless

you're brand new to the sport. The reason is, you no doubt have a lot of 1/32 scale parts laying around right now that could be utilized. You can substitute freely. And if you have a 500-A can (with brushes at the pinion end), just whip up a bracket to fit the nose, and place the mounting screw at the pinion end. This chassis is versatile, and will take nearly any kind of motor, as it obviously has room.

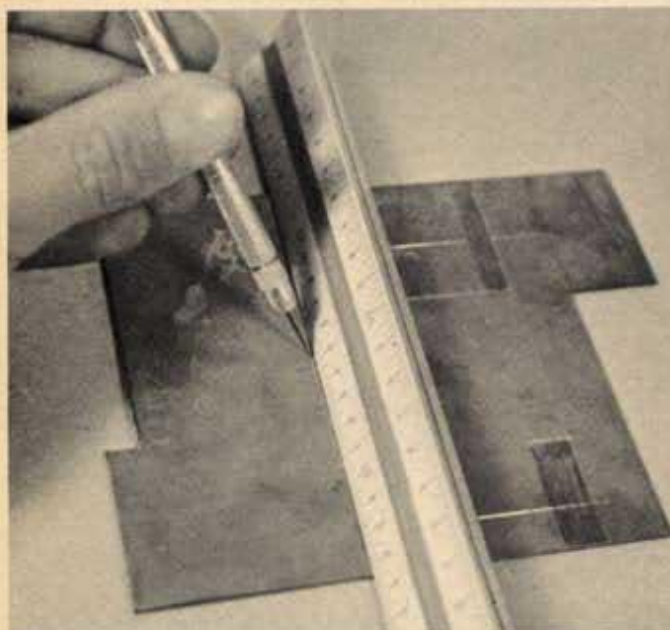
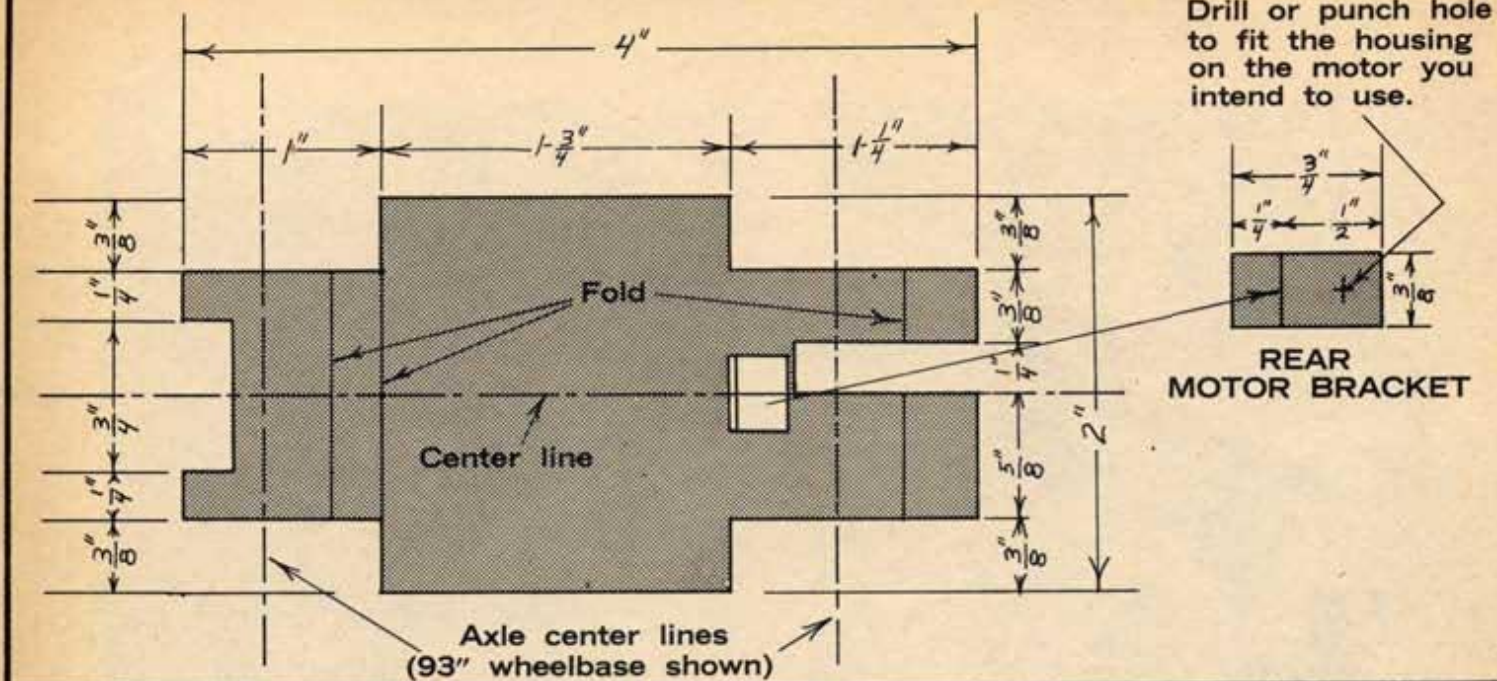
Cox rear wheels and tires work well too, as will Auto Hobbies (if you can find them). Or if you have Russkit set-screw wheels and tires, fine. Like I said, this chassis is versatile. And it handles!

Would like to hear from you readers who take the time to build this bomb. If you'd like more of this kind of "how to do it" thing from ol' Speedy, say the word. I'm yours! Every beautiful inch of me!

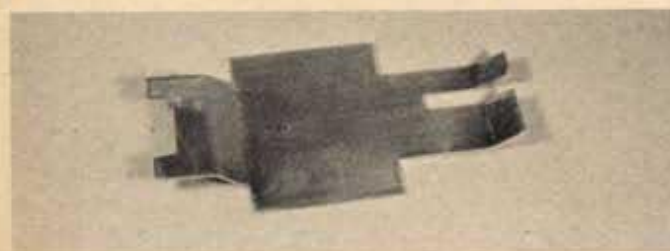


To tailor a chassis for any given shell, thread the wheels you are going to use on the axles, and place them inside the shell. Adjust them until the tread is perfect. Lock the jam nuts against the wheels to keep them positioned.

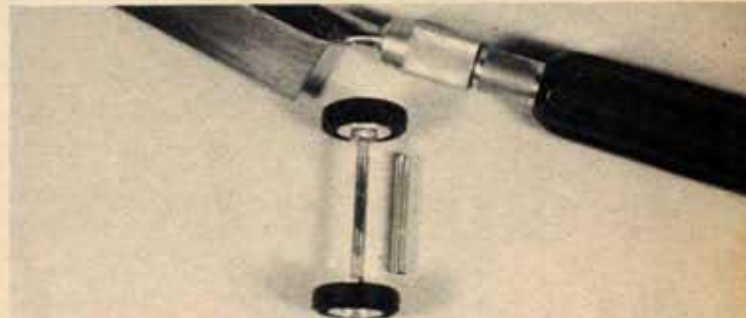
FRAME TEMPLATE



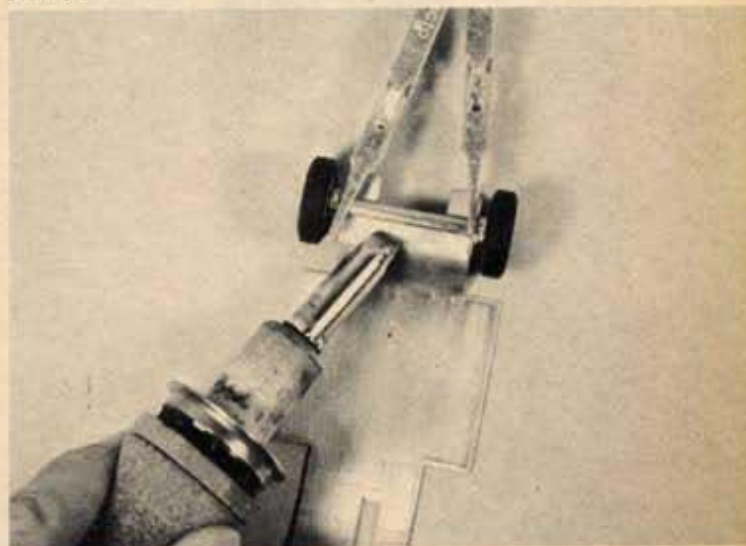
Transfer the frame from the template to the brass plate. Use a scribe, as pencil marks have a tendency to disappear. Use utmost care in laying this out, as accuracy is most important!



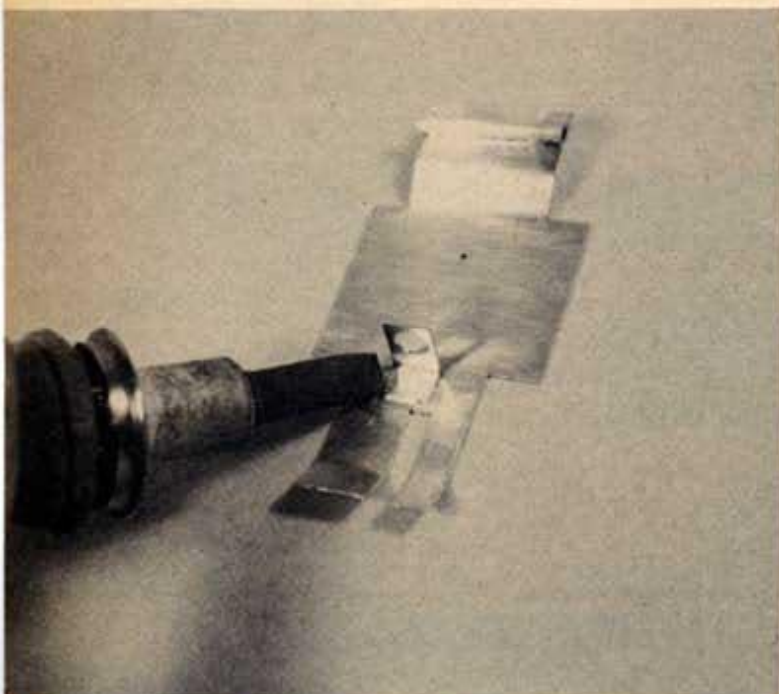
Cut the frame out. Finish with a file and emery paper. Fold the frame, using a vise. Polish the frame with emery paper, steel wool, and finally kitchen cleanser and hot water.



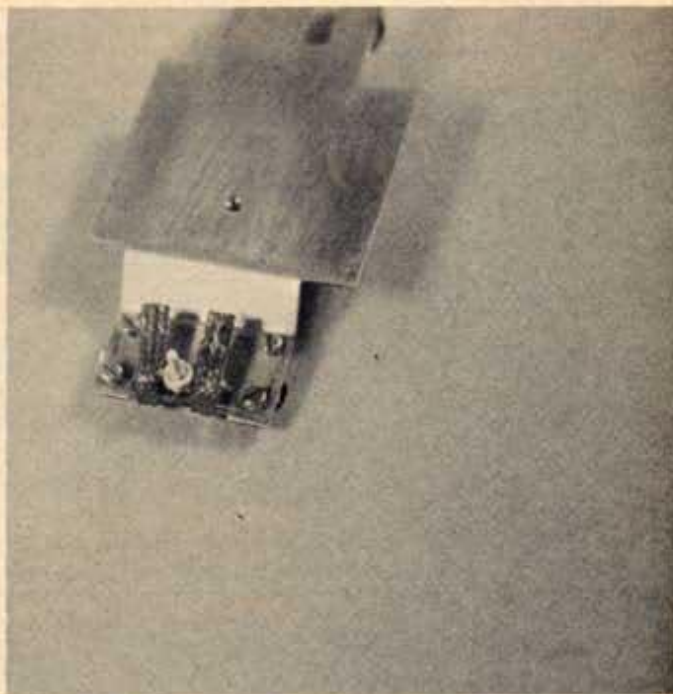
Measure between the jam nuts (front axle only) and cut a piece of 1/8" inside diameter tubing. Slip it in place on the axle and secure the jam nuts against the wheels again. The axle should spin freely.



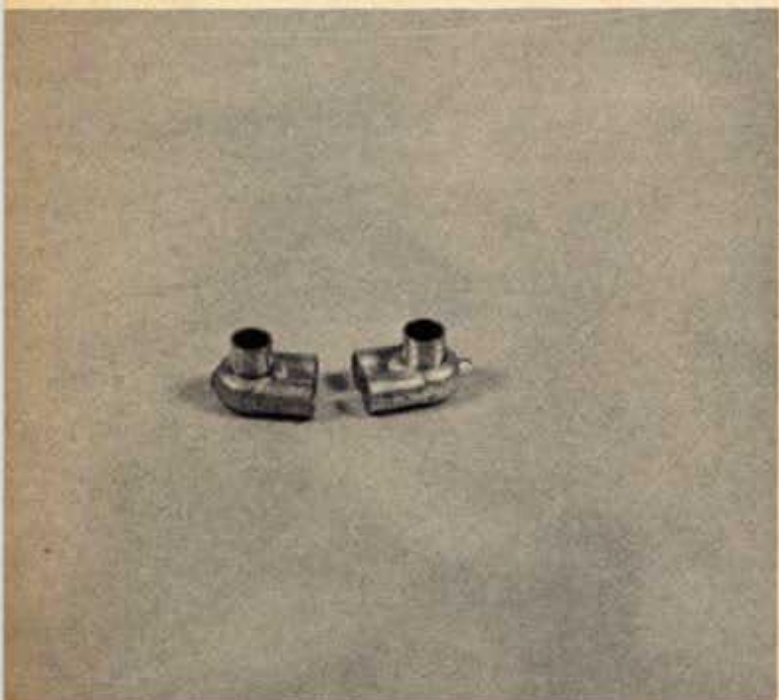
Clamp the front axle tube over the scribed axle line, and solder. Make sure it's dead accurate! If you have an Adjust-O-Jig, use it. You can do it without one, however, if you're careful. Of course, the axle tube must be polished with emery paper so it's clean. Otherwise you can't do a decent job of soldering.



Refer to the template for the rear motor mount. Cut it out and fold it. Clean it up with emery paper, then solder in place, while holding it with a clamp. Don't use the motor on the frame for a guide, as it is very easy to ruin the plastic parts by overheating.

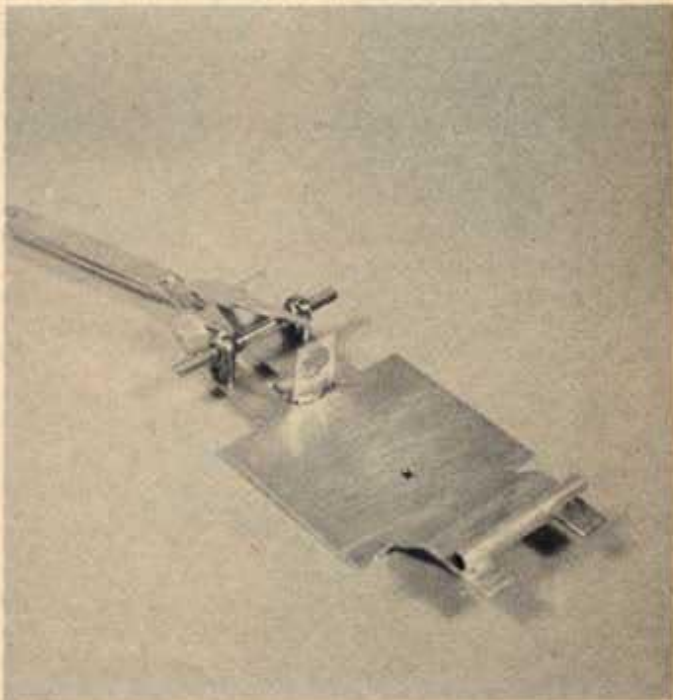


Cut the plexiglass pickup plate to shape, and mount with four self-tapping, 2-56 screws. The pickup pin, and pilot holes for the 2-56 self-tapping screws that will hold the brushes, should be drilled before the plate is mounted. Slip the nylon bolt that will serve as the pin, in place, and secure with a nut underneath. Use epoxy or loctite on the nut to make sure it stays. File the threads off the bolt, and finish with sandpaper. Mount the brushes.

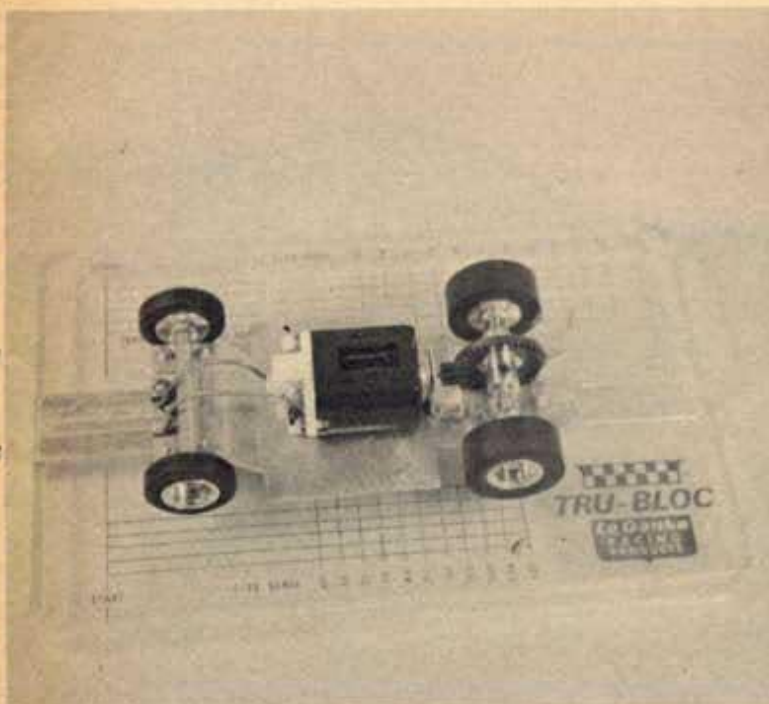


Cut two, 5/16" long pieces of 1/8" I.D. brass tubing. Clean with steel wool, then slip them into the Kemtron pillow blocks. Slide an axle in place to maintain alignment, and clamp them in position over the rear axle scribed center line. Solder the

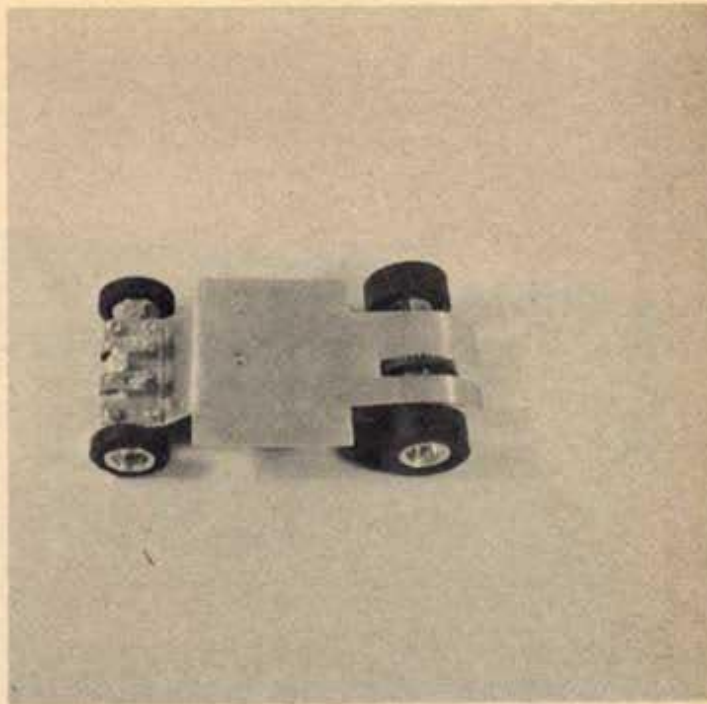
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tubes to the pillow block first, then the pillow blocks to the pan. Make certain the alignment is dead accurate. You can do this by measuring the distance between the left-side front and rear axles, then the right side. They should be the same.



Mount the motor, and place a gear on the rear axle assembly. Adjust everything for clearance, and check the final measurements. If the wheels are out of alignment (sloppy workmanship!) it will handle terribly! If it's okay, you'll have a zinger!



Give the body shell a good paint job, on the inside, after cleaning it with warm, soapy water, followed by a good rinse. Scrounge some decals and position them. I still like my decals on the outside! Trim around them before you install them. Paint a piece of cardstock flat black, and mount a painted driver.

BILL OF MATERIALS

- | | |
|--|--------|
| 1 pr. Auto Hobbies AH-440 rear wheels and tires, 15/16" O.D. x 3/8" wide, sponge. Alternate selection, Monogram SR1052, consisting of 7/8" O.D. sponge tires on wide wheels. | \$1.00 |
| 1 pr. Monogram SR1004 front tires, 13/16" O.D. | .50 |
| 1 pr. Monogram SR1103 front wheels, 1/2" O.D. | .60 |
| 1 Revell SP-80 motor.* | .89* |
| 1 Cox 37 tooth crown gear (or your choice of ratio). | .50 |
| 1 pr. Kemtron pillow blocks, #1772 (takes a 5/32" diameter tube) 10¢ each. | .20 |
| 1 pr. Monogram 1-3/4" axles, with nuts, SR1202 | .40 |
| 1 piece of scrap brass, 4" x 2". (1/32" thick or more, half-hard. Check hardware or sheet metal shops for scraps. They'll probably give you one.) | .20(?) |
| 1 piece of 1/8" inside diameter brass tubing for axle bearings. (Scrounge scraps.) | |
| 1 piece of scrap plexiglass or styrene, for pickup pin block. This can be made of hard wood also. | .00 |
| 1 piece of 1/16" diameter tubing or rod, for body mounts. (Scrounge) | .00 |
| 1 pr. pickup brushes. (Any brand, usually about 19¢ a pair.) | .19 |
| 3 self-tapping screws, 2-56 thread, for front motor mount, and pickup brush retainers. Scrounge your parts box. | .00 |
| 1 Dubro 1/32 clear plastic body.** | .50** |

Approx. total **\$4.98**

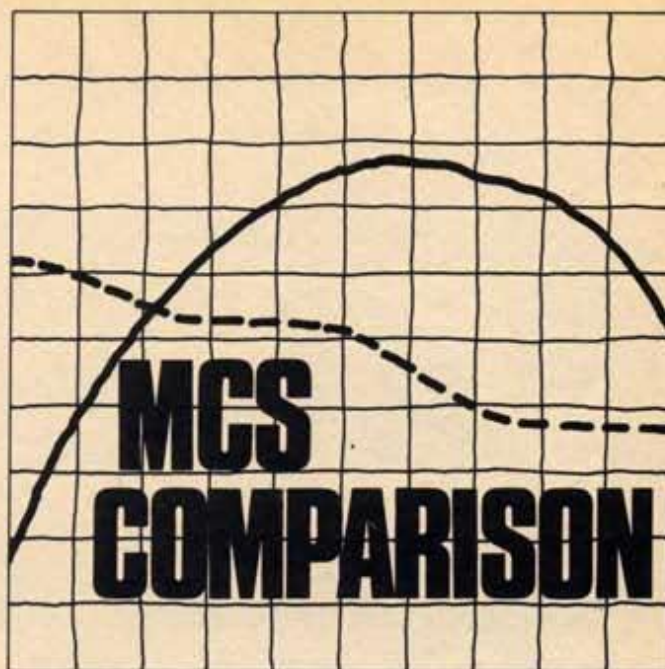
EXPLANATION

*Revell SP-80 motor offered for 89¢ by "Motor Man," P.O. Box 66396, Los Angeles, Calif. 90066.

**Western Hobbies, Inc., P.O. Box 49978, Los Angeles, Calif. 90049, offers DuBro 1/32 bodies (choice of Ferrari 246, and Cooper-Ford) for 50¢ with any order of \$5.00 or more.

motor match

By Chris Chan

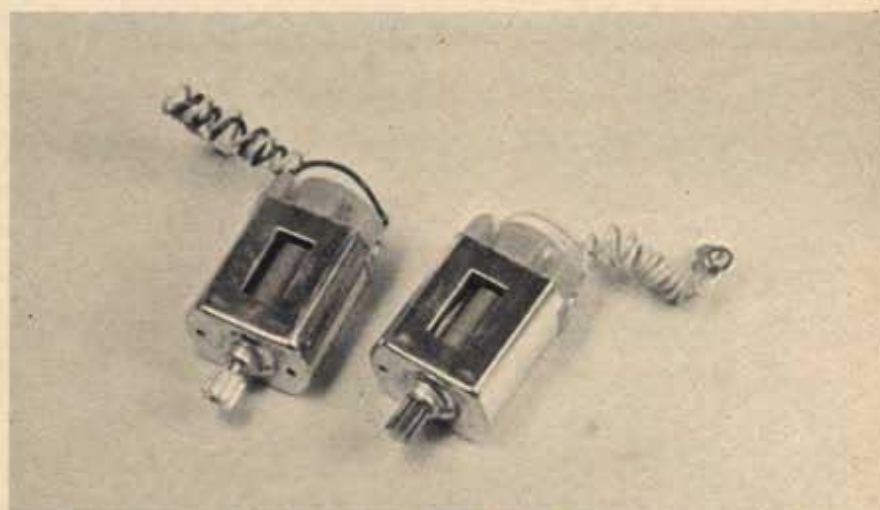


Part I: Tech-testing the Light-Weight In-Lines

This, the first of Model Car Science's product comparisons, deals with the most popular of pro-racing motors. The lightweight in-line "cans" have long dominated the professional circuit in highly tuned and modified form. Three motors have stood up continually in this competition as the leaders. All three offer the same basic size and shape, but all differ in various ways. Most importantly though, is that although the performance of all the motors varies they are all capable of winning races.

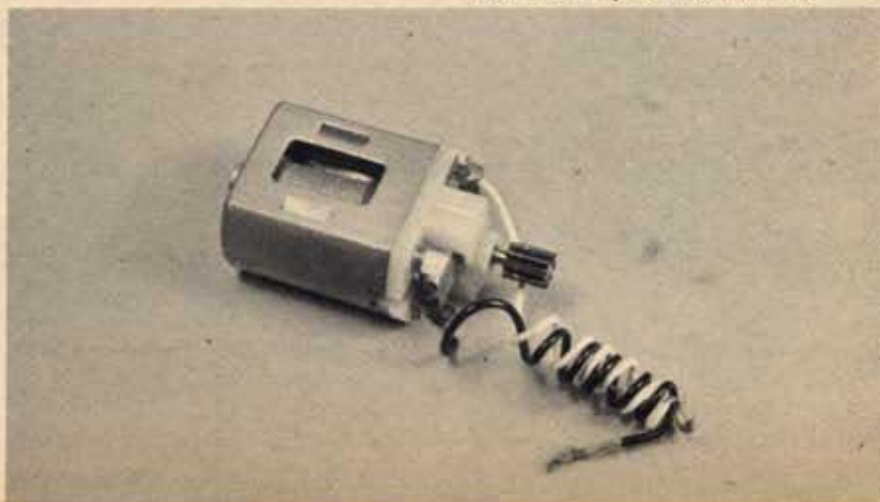
The trio of motors tested was the Mabuchi 16D2, the Strombecker Hemi 300, and the Russkit 25. The three motors that were the hot performers on the pro circuit were: the Mabuchi 16D, which most every manufacturer in the U.S. and England puts out under their own name (like Classic 160, Revell SP80); the Russkit 23 (the sole Mabuchi 16D2 now marketed); and the Hemi 300, sold by Strombecker as the Hemi 300 and Pactra as the Hemi X-88. The Mabuchi 16D was dropped from the test because its performance is almost identical to that of the Russkit 23, and the new 25 was added because it varied in basic construction. The reason for the omission of the newer Mabuchi 26D and the Pittcan was made on the basis of size and shape, which simply were not in the same class as the smaller cans, although their performance is close.

The first motor checked was the Mabuchi 16D2 (the version used for the test, the Russkit 23, is the closest sample to the original spring-loaded brush model Mabuchis). Changes made since the early days of the Revell SP500 are heat sink brush holders and slotted com-



The Strombecker Hemi is easily one of the best things they have ever sold. The hot stock motor is now sold by Pactra as well (left).

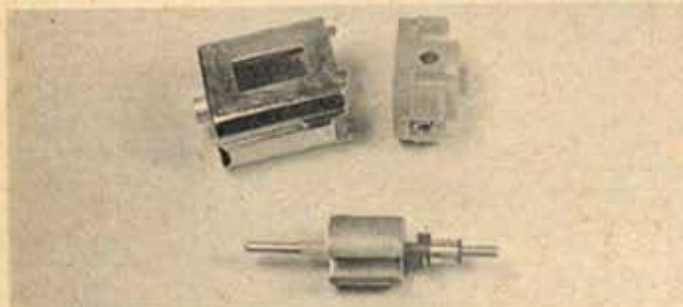
When the Russkit 22 was no longer competitive, American Russkit released the updated 23. However, the gold colored motor, a rewinding favorite, may be discontinued.



Photos by Chris Chan



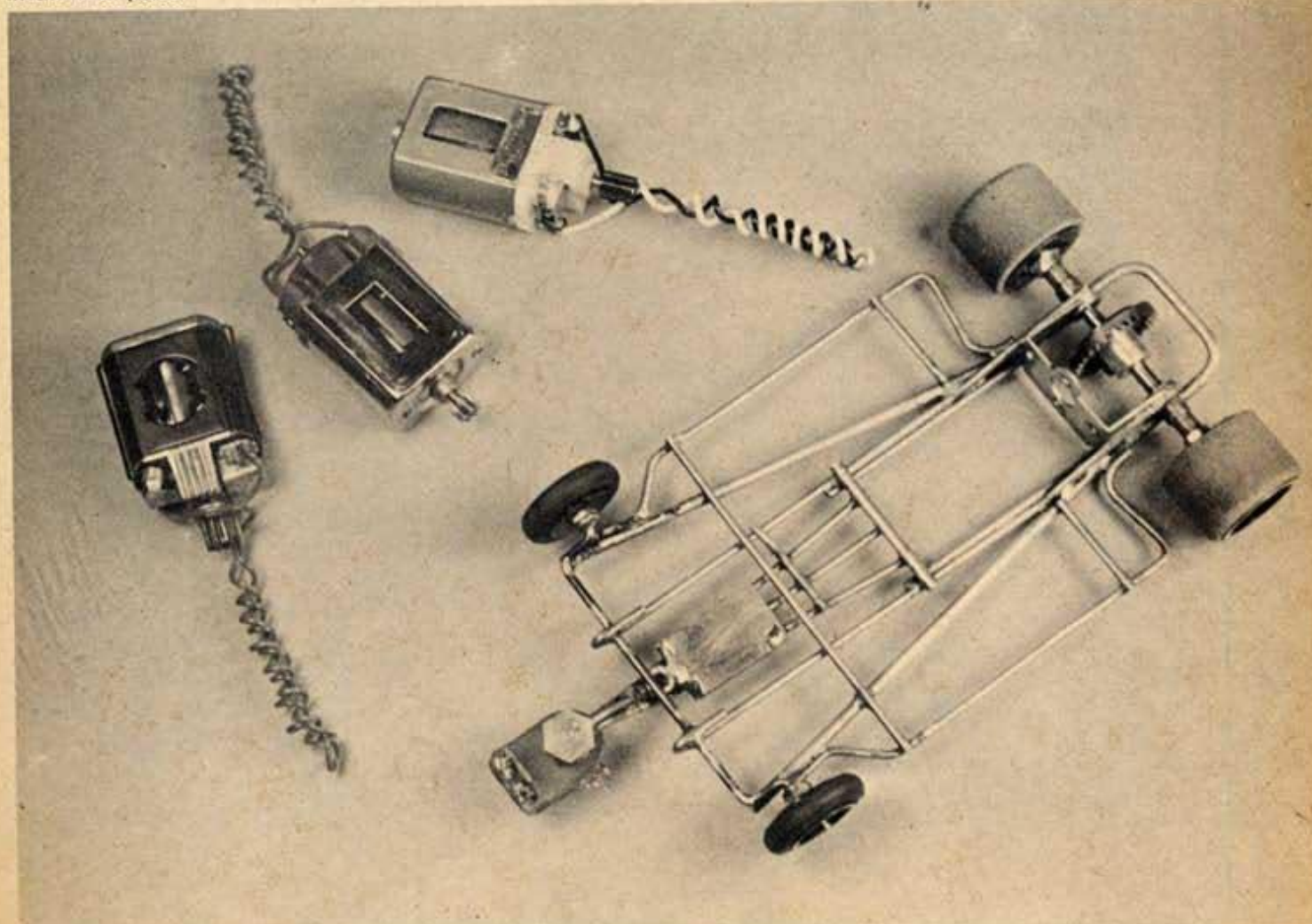
The newest from the Russkit people is the 25. All-American in manufacturing, the 25 is designed for adverse conditions and high torque rather than RPM.



The Strombecker Hemi is also available as a "wind-it-yourself kit" for those who were going to rewind in the first place.



Testing for magnet strength is touchy with the Monogram Magnameter. Since the needle was affected by the case thickness, all magnets were later tested in the same case with the same armature.



For track testing, the motors were all fitted into the same perimeter-rod sports car frame. Solid handling gave us the maximum motor flexibility.

mutators. Blue-white magnets, the strongest Mabuchi uses, are always found in the 23's. The voltage designation is 6, but the actual intended use is for 12. The ceramic commutator is set at "0" degrees, but most Russkits run their best clockwise. The 23 sells for \$3.00, complete with a plastic storage case and brass mounting brackets. The popular #795 U-bracket is a new addition to this package that is greatly appreciated.

Perhaps the most unorthodox of the lightweight in-lines is the Hemi. The 300, or X-88 as Pactra named it, is set up in chromed magnet cases with bright red end bells of easily breakable plastic. The magnets are large ceramics, colored blue-

white, but not of the same type as Mabuchi. The radical difference between the Mabuchi-types and the Hemi is in the brush department.

For high RPM small, cylindrical brushes, loaded with soft coil springs were used. The output, or gear, end of the armature shaft is opposite the brushes protruding out of a small oilite bearing. For mounting, two holes to either side of the shaft are provided here. The wire is #32 with 100 or so turns on each pole of the factory balanced armature. The commutator looks like the type Classic markets and is timed some 5 or 6 degrees clockwise. The Hemi sells under both Strombecker and Pactra labels for

\$4.95 with brass brackets and a ten tooth steel pinion.

The last of the motors tested is the most unique, although basically a Mabuchi-type arrangement. American Russkit has long been in search of a competitive motor of their own to battle the Japanese and this may be it. The Russkit 25 appears to be the answer, after several misfires (like the 24). The motor is entirely a U.S. effort, using Stackpole magnets, Kirkwood's latest commutator, and a heavy gauge magnet case. The 25 fits into all the places that the 23 did, but also has mounting holes in both ends.

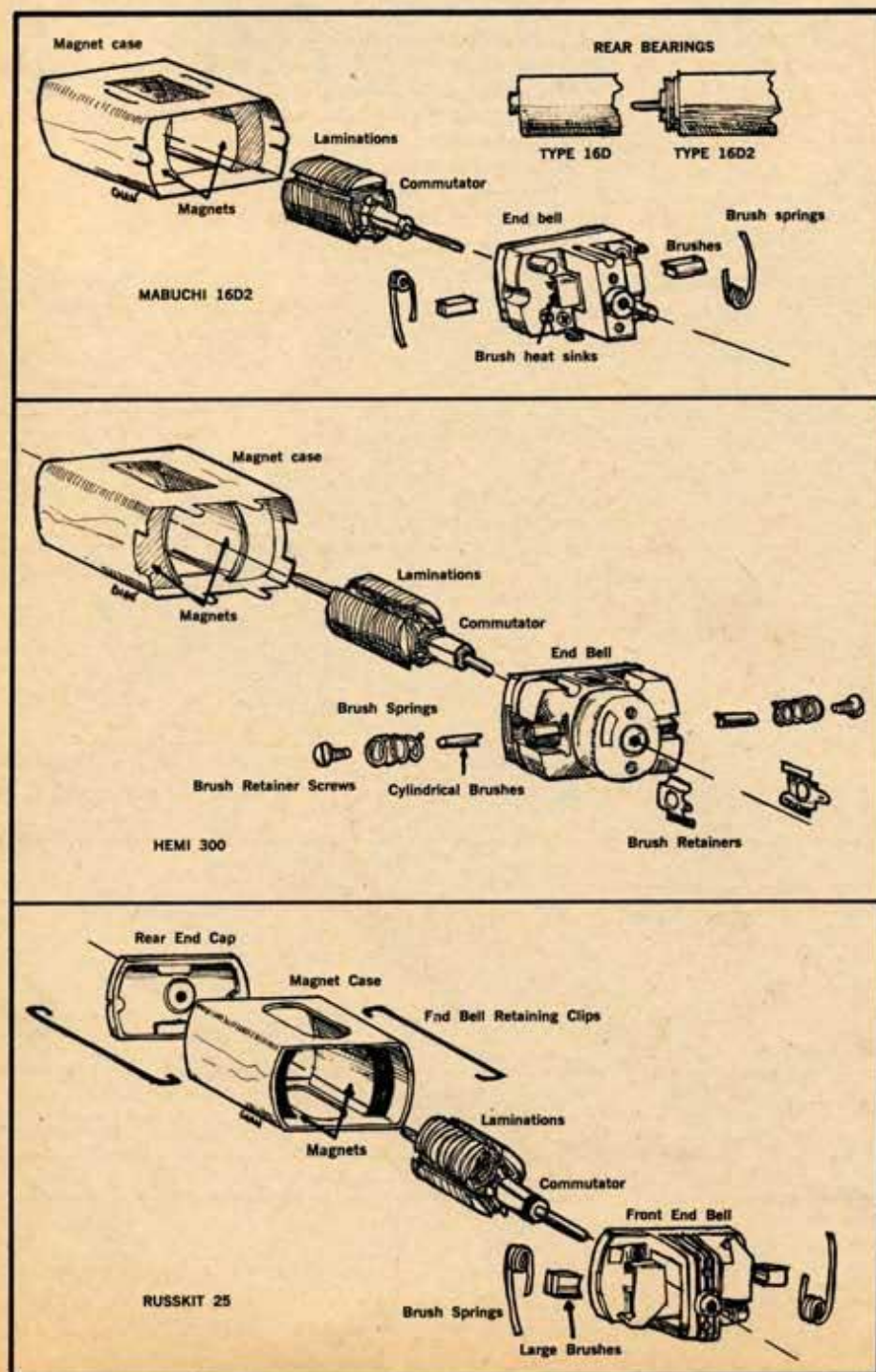
All case components are metal, which makes for a good deal of loud noise. This may make the motor sound slow at first, but after awhile you can get used to it. The case system itself springs into three parts at the release of two retaining clips (see drawing); the case with the magnets, the rear end cap, and the front end cap with the brushes. The brushes themselves are interesting in that they are the same size as those a large (36D) Mabuchi uses. This apparently sacrifices RPM, but torque and reliability were more important to Russkit. The commutator was dead zero in timing, and rotation was the same either way. For the \$4.50 tag, it is expected that the same supply of accessories available with the 23 will be seen here.

The equipment used in the testing was as follows: 1 Monogram Magnameter for testing the relative strength of the magnets; a perimeter-rod sports car frame with a Chaparral shell; four hand controls in ohm ratings of 5, 7½, 10, and 15; several sets of Cox and WelDun face gears; and finally one 150 foot raceway with a 50 amp-12 volt power supply.

Before the start of testing, each of the motors was run at half speed for a one hour time period to seat brushes in properly. One each of the motors (we had several of each type) had its magnets removed and placed in a Hemi case with a Hemi armature and tested for strength. The brushes and bearings were then noted for later checks on wear. Each was then installed in identical chassis and run through 4:1 gears for one hour, checked, and then cleaned and reoiled.

Then each of the motors was installed in an extremely good handling perimeter-rod sports car frame and tested to achieve the best possible gear ratio. Next, in final form each car was run for driver impressions from each of the MCS team drivers. To then see how each motor might later be used as a basis for a truly exotic powerplant, they were completely torn down and reassembled using motor accessories to improve on their weaknesses.

The results of the stock motor test varied little from our expectations. The Hemi walked off and left the two Russ-



kits in all out magnet power, had the only advanced comm in the lot, but did not enjoy much of an edge in acceleration at all. The smaller silver brushes of the Hemi were its Achilles heel.

Their tiny size gave the Hemi high top end and good contact, but bombed out in no time and left the entire motor incased in graphite dust. Added to this, the springs lost what little tension they had under what we considered normal heat. Battling all this, the Hemi still showed up as our favorite in the all-round stock contest. The laterally located screws kept down the vibration to make an extremely solid unit.

The new 25 was rated second in this class, barely edging out the 23 that it will replace. The 25 had more torque and power then anything, but ran into serious problems in the RPM department. The larger sized brushes and a seriously out-of-balance armature hindered what will probably soon be a very competitive motor (we got to the 25 when there was just one in existence in Jim Russel's own car). Although it ran rather warm, the heat caused no serious problems as it held with the Hemi in acceleration, and tore it apart in braking.

Getting around the road course quickly was possible with a lot of concentration. The stock Hemi we had began to increase speed after a bit and was mixing it up in the company of hot rewinds

until the brushes dumped it into pits. Braking was so smooth it was like comparing a drum to a disc, and the 10 ohm control gave good feel for fast power sliding. The high revs were put to use with a low gear selection finally settling down with 4.6:1.

The Russkit 25 ran through 3:1 gears in the end, using WelDun's aluminum because it tore apart Cox's. The torque was very impressive, but the braking was almost too quick. An easy let up before a sharp turn often left you in the dust as the car screeched to a dead stop. The fast acceleration also helped in the decision that to run with the Hemi, and we finally did towards the end, a 7½ to 5ohm hand control was necessary.

The Russkit 23 was the most docile and forgiving motor. The performance was never really affected by any of the gear ratio changes but seemed quickest at a straight 4:1. It could still be handled very smoothly with either the 10 or 15 ohm control in use, and with pressure driving it was the easiest to drive hard. Although its sensitivity was poor, it was much more predictable and made up for some driver miscalculations.

Now in the final examination, each motor was completely reassembled with all new parts to pick up on the poor spots we found in each motor. This gave us a finished super motor in each case, to test the ability of the three motors

to run at pro-racing speeds. The Russkit 23 went the quickest in revamped form. Milled down Arco 33's from a big can, an 11-degree French comm, and 7 feet of #29 wire put it into company of the fastest. Dynamic balancing on the 23 and all the rest cut down heat and vibration to harmless commodities, and probably added a few thousand RPM too.

The Hemi flew too. With the stock magnets, which were the most powerful of all the stock magnets, stock comm (retained 10 degrees), and 7½ feet of #29 wire, the high powered Hemi ran the entire perimeter-framed sports car around at track record clips. Somehow the Hemi never performed quite as well in a Formula car though, because it was wound, timed, and tensioned for heavier cars.

The Russkit 25 was certainly the most amusing in its modified state. The entire armature was swapped with a #29 (55 turns) Thorp and Champion of Los Angeles brushes. Despite the dynamic balancing, the all metal case rattled like anything and ran what appeared to be unimpressive. Surprisingly the noise had created an illusion of slowness, and it moved as fast as the high revving Hemi. The ultra-rapid braking of the big brushes still was bothersome until the hand control ohmage dropped to 5 instead of the 7½ found the best with the others.

	PRICE	HEIGHT	LENGTH	WIDTH	SHAFT	BEARINGS	SOLD WITH:
MABUCHI 16D2	\$3.00	5/8"	1-5/16"	15/16"	.078"	Oilite	U-bracket, brass mounting brackets, lead wire, 3-tooth pinion.
HEMI 300	\$4.95	11/16"	1-5/16"	15/16"	.078"	Oilite	Brass mounting plates, ten tooth pinion; available as kit for \$3.50.
RUSSKIT 25	\$4.50	5/8"	1-5/16"	1"	.078"	Oilite	Not available, but probably the same as Russkit 23.

SPECIFICATIONS

	MOUNTING	VIBRATION HEAT	RPM TORQUE	BRUSH WEAR	ACCELERATION	BRAKING	TOP SPEED	MAGNET STRENGTH
MABUCHI 16D2	***	****	***	***	***	****	***	**
HEMI 300	***	***	****	*	****	***	****	***
RUSSKIT 25	****	**	***	****	****	****	**	***

TEST RESULT RATINGS

**** EXCELLENT
 *** GOOD
 ** FAIR
 * POOR

PERFORMANCE WITH BEST GEAR RATIO



By Phil Willen

SCALE BLASTER

FOR BONNEVILLE

For going fast in a straight line,
try some LSR action with Rocket Racing.



THE GASOLINE FIRED, PISTON DRIVEN ENGINE IS DEAD. Washed up. Finished. Kaput! As far as the matter of speed records is concerned, that is.

The old popity popity machine may still be the first class ticket as far as wheeling down to the local hangout; but when trying to get from point "A" to point "B" faster than the sweep hand on the old Mickey Mouse, jet power is the only way to fly.

The powerful jet engine has dominated the aircraft biz for many moons now. It was only a matter of time until someone figured out a way to ride a large stovepipe and cradle it with four wheels. Craig Breedlove and the Arfons brothers all got the idea about the same time. Independently. Since then, land speed records have been pulverized to a fine powder.

Matter of fact, jet racing came to the model world, *sort of*, long before Mr. Breedlove towed his wingless jet plane to the salt beds of Utah and proceeded to make mince meat of the existing land speed records. I say sort of, cause when we were kids (a loooong time ago) we used to make balsa wood cars go, with CO₂ cartridges. This was a step away from the fuel burning engines of today; but they went woooosh and pushed the cars along at a fast clip.

While looking about for a suitable power plant for my proposed project LSR (Land Speed Record), my attention was directed to a jet engine made in jolly old England, and brought to our shores by the Aristo-Craft folk. Jetex, a miniature, solid fuel burning jet-engine that in their modest words, "outdates every other form of model power!"

Actually, in the literal sense, Jetex is 32 / model car science

a rocket engine and not a jet. It doesn't draw in air to burn with the fuel, but expels burning gasses from a closed chamber. But as the man said while chopping rabbits in half, "That's kind of splitting hares."

Jetex engines come in four sizes ranging from the 50 H.T. Rocket rated at .5 ozs. of thrust, to the Scorpion 600 with up to 7½ ounces of thrust. For project LSR, we used the 50 Hell Cat (you should pardon the expression), with .6 ozs. of thrust and a run of 12 to 16 seconds. Cost of this engine is one dollar, which is much less than Breedlove paid for his, even scale-wise. And you can buy extra fuel pellets; so the rig is reusable.

The reason the 50 Hell Cat was chosen for this project, is that the mighty modelers of Monogram make a jet-propelled car designed to take this particular engine, as well as the CO₂ cartridge.

The Firebolt is an original design model jet car, which while not a model of any current prototype, has a style that is in keeping with the current crop of large salt skates. Asbestos washers are supplied with the kit to keep the heat of the bitty blaster away from the plastic.

The jet engine comes with a mounting bracket that fits right in the back end of the Firebolt. It's necessary to buy two #2-56 screws, 3/8" long, to keep it there. It's very important to keep the screw heads from touching any part of the plastic, as the heat from the engine case could be transmitted to the plastic and cause much badness. That's why asbestos washers are included. A cardboard heat shield is also provided. The shield has an aluminum coating that goes on the inside to further protect the heat prone plastic.

At one dollar a copy, the Firebolt is

Who put all that go in a little, bitty can? Aristo Craft do'd it! Their Jetex solid fuel rocket, the 50 Hell Cat, produces 5 ounces of thrust and a run of 12 to 16 seconds.

a King Kong size bargain with very good detail. Lots of air scoops are provided, and they're not there just for eyeball satisfying. A Jet engine generates lots of heat, so the air pulled in by these scoops helps protect the body.

The Jetex engine is anchored snugly in the tail of the Morton Grove meteor, however it slips out easily with a pair of small pliers. A piece of stiff wire can also be bent into a hook for quick uncoupling. The engine must be removed to load in the fuel pellets and special wick that come together in a package for just sixty coppers.

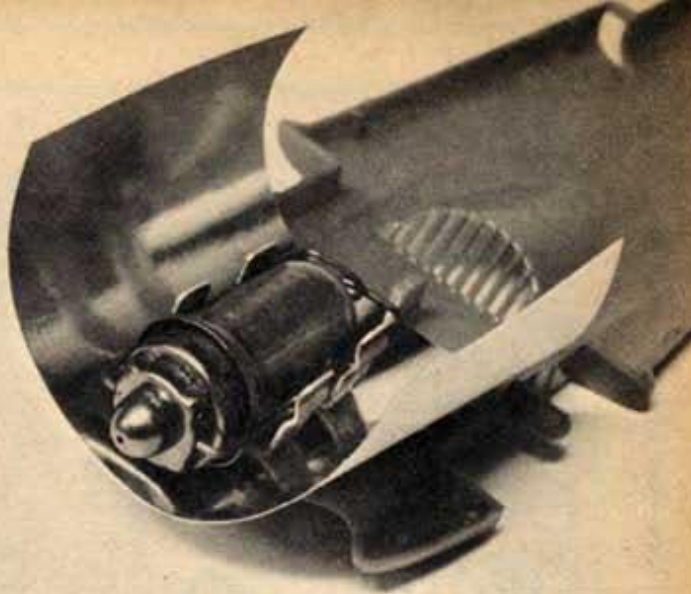
String a straight line for a distance of 150 to 175 feet, using a brick or some such to fasten the ends. Be sure to pass one of the ends through the built-in guides in the body of the car before fastening it.

Now, after loading the engine according to directions, light the wick and blast off! By the way, it's a very good idea to have a bunch of cloth, rubber, or something at the finish end to keep the little swisher from making its maiden run its final one. And as soon as the car reaches the end of its run, pull out the Jetex unit to keep the heat from doing the tail end dirt.

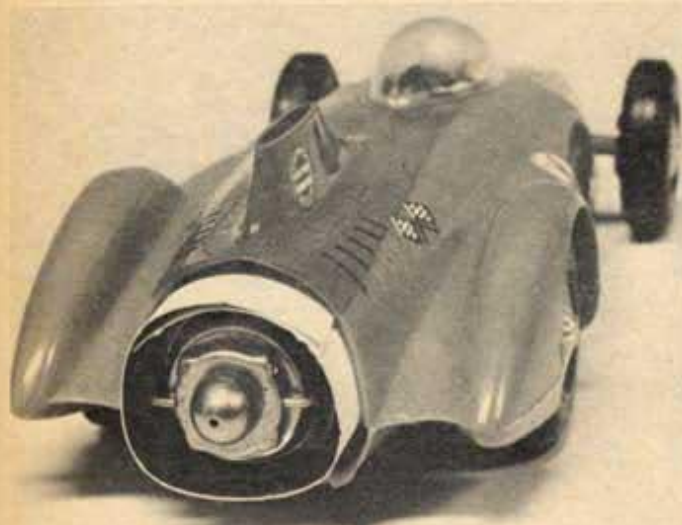
Make two marks on the ground near the end of the line about 50 feet apart. Get a hold of a stop watch, and time the bombs as they streak between the marks. Now, you've created your own Bonneville! Who's going to wind up with the neighborhood record?



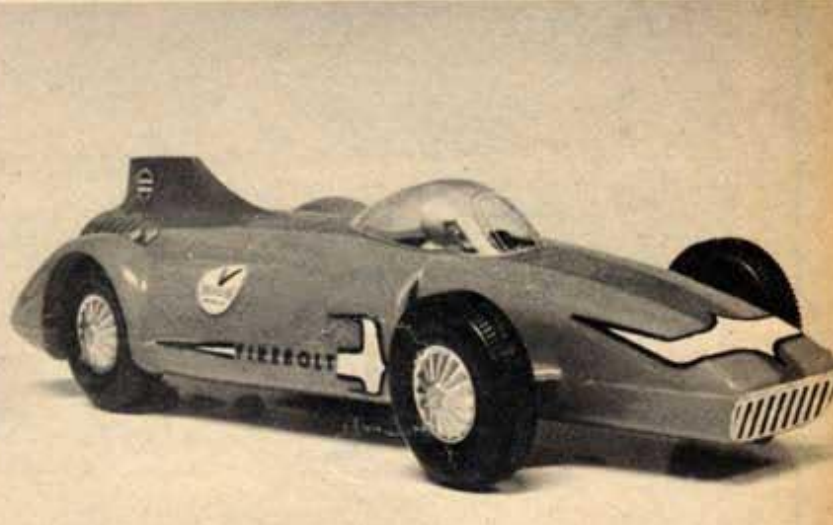
Here're all the fixin's you'll need to work up a scale Bonneville blaster. Total cost, about \$2.60. The Monogram 1/24 scale Firebolt kit takes the Jetex rocket without any modifications.



The Jetex power pack comes with a mounting bracket that fits right in the back end of the Firebolt. The cardboard shield protects the plastic body.



The rear vents on the Fireball aren't for looks alone. The rocket gets hot! Without the venting and heat shield, it might do much badness to the rear.

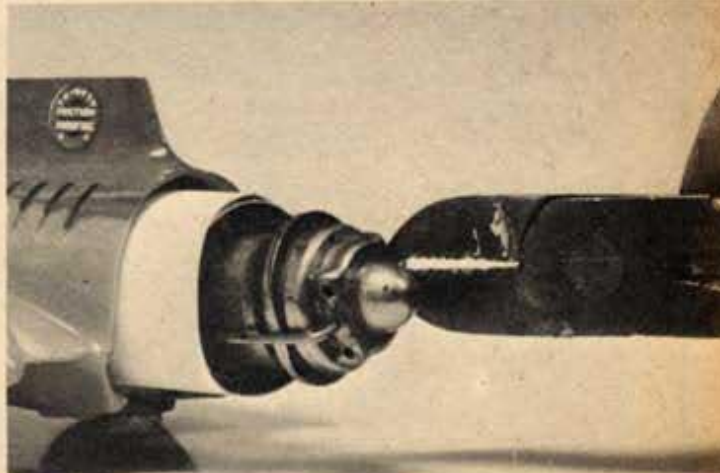


The Firebolt is Monogram's own design for a jet machine which, while not a model of any current prototype, has a style in keeping with many of the big salt blasters.

Photos by Phil Willen



Color the driver brave, add a few decals, and you're ready for a crack at the local sidewalk LSR. String out a line, light the rocket wick, and blast off.



The Jetex rocket slips out easily with a pair of small pliers. Then just drop in another fuel pellet and wick for another trip down the asphalt.

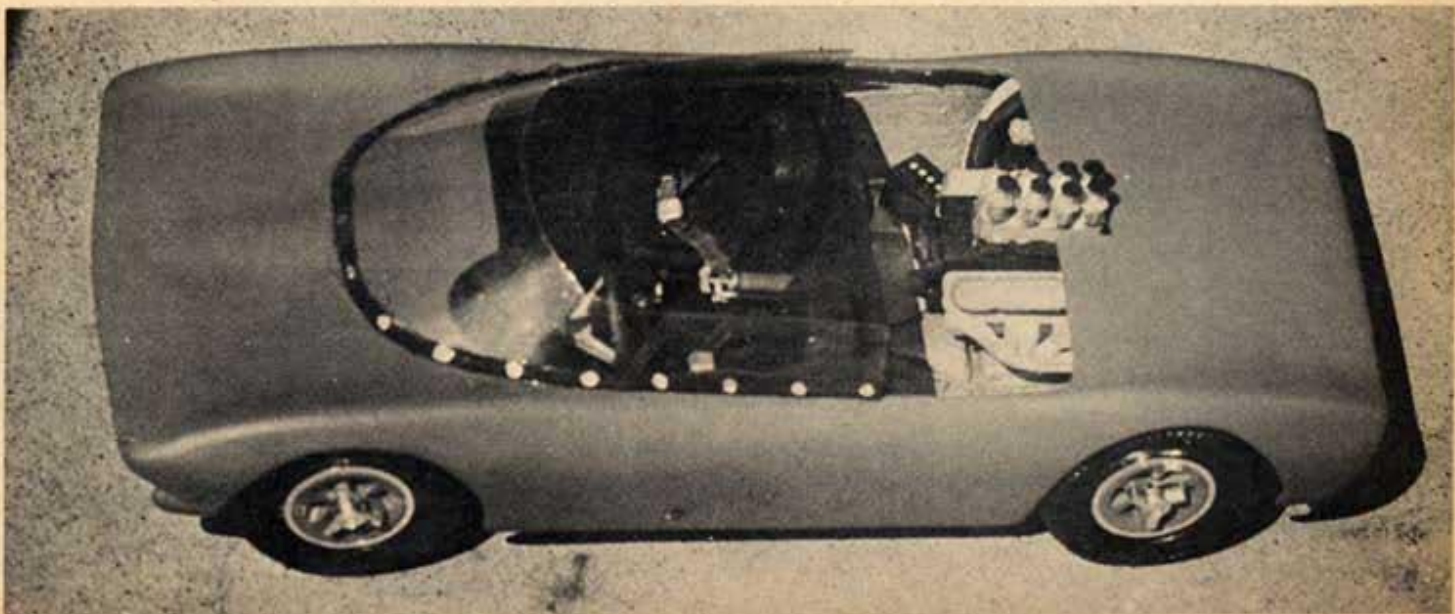
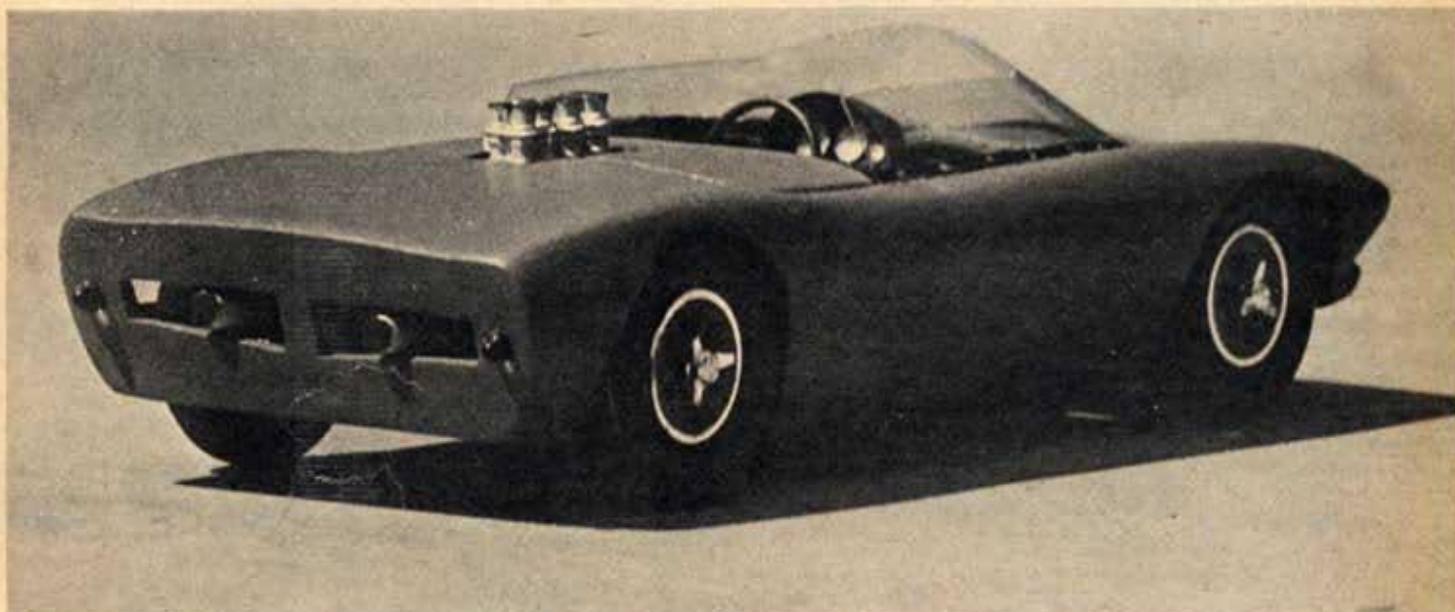
mcs: MODEL OF THE MONTH CONTEST



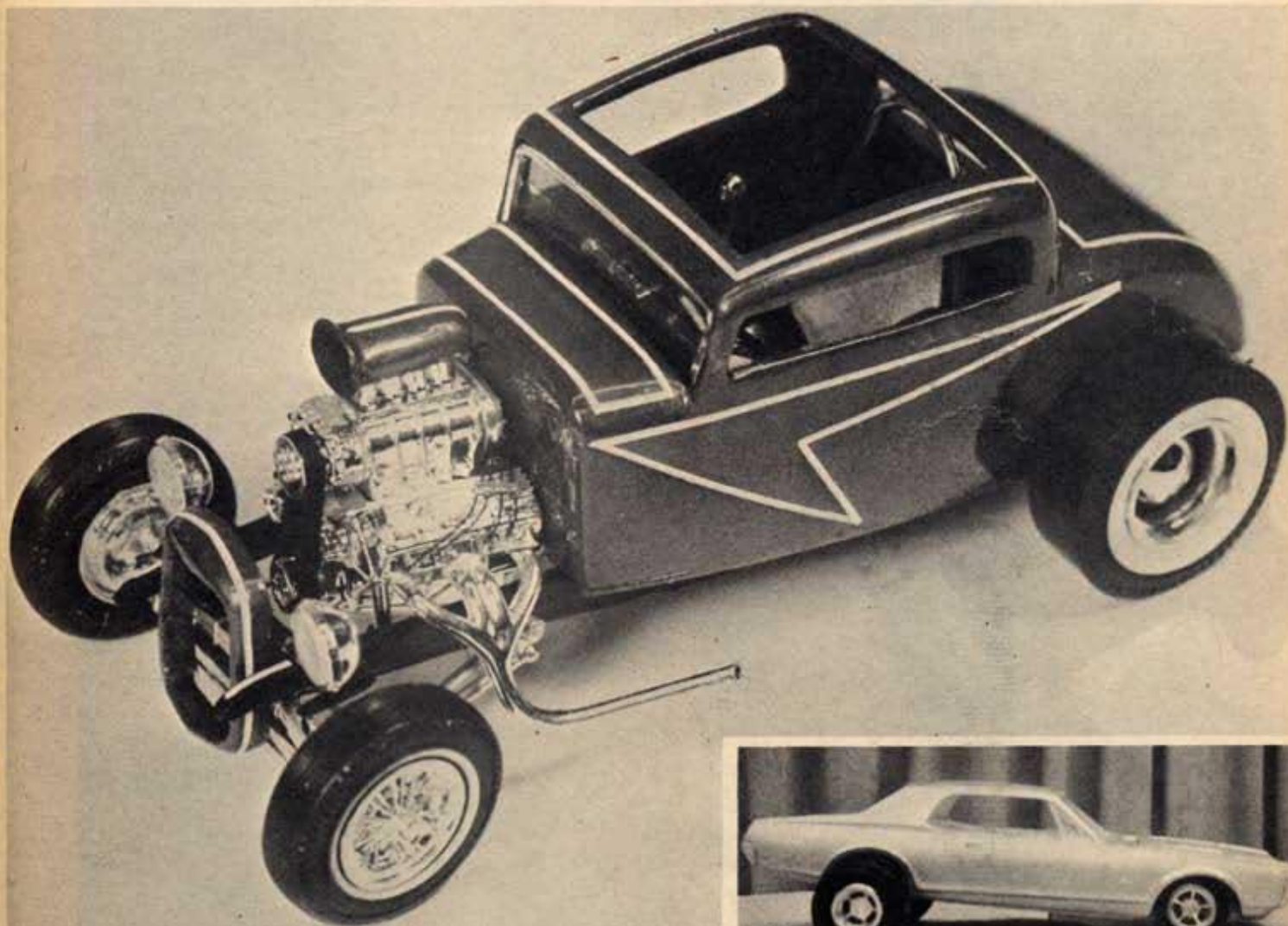
THE MOST RADICAL WHEELS . . . and taker of this month's \$25 Savings Bond came from John Dabrowski, 9965 Garibaldi Ave., Temple City, Calif. In case you hadn't noticed, it's a reworked, rear-powered 'Vette, with body seams filled and profile rounded off.



Interior was moved one inch forward, with a balsa hood added. New rear is also balsa. Windshield was made from celluloid, based on paper templates. Reworked front has Marchal lights and racing screen from the 'Vette kit. Finish is Ferrari red.



Jay McKee, of Lynchburg, Va., powers his Funny Falcon with Revell's blown '58 Chrysler V8, fitted with a '63 Vette trans and bell housing. Rear wheels were moved forward 1/4 inch, and front jacked up. Scratched goodies include roll bar, headers, and dipstick (working, yet!).



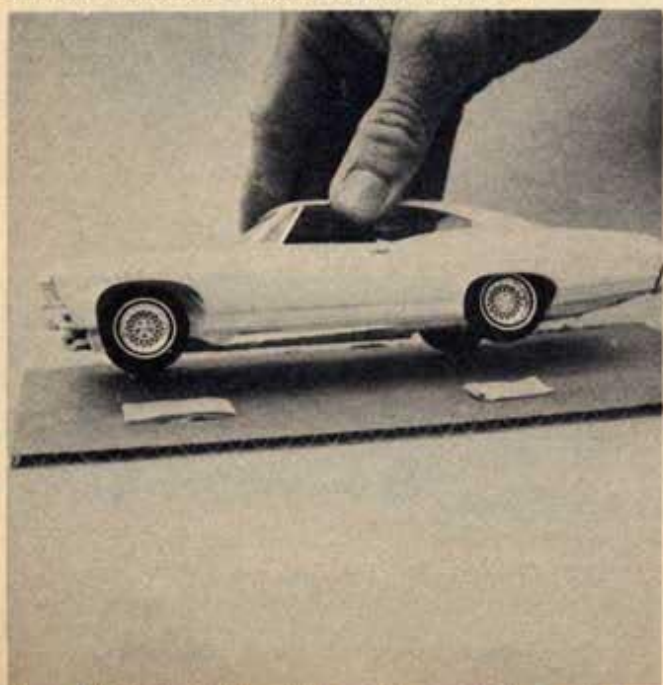
From Jim Hague, of Sewickley, Pa., came this sharply chopped '32 Ford coupe drag-streetster. Top has been opened, dropped, with center posts removed; body trim was removed and seams filled. Radiator shell was hollowed and chopped. Stripping is 1/16" Micro-Tape.



With rear slicks like this, you can get a nose bleed! The rig is a silver-finished '67 Comp Cougar, from Mike Simmons, of Loma Linda, Calif. Rear has been jacked and front lowered. Power is a Chevy 427, with Weber carbs.



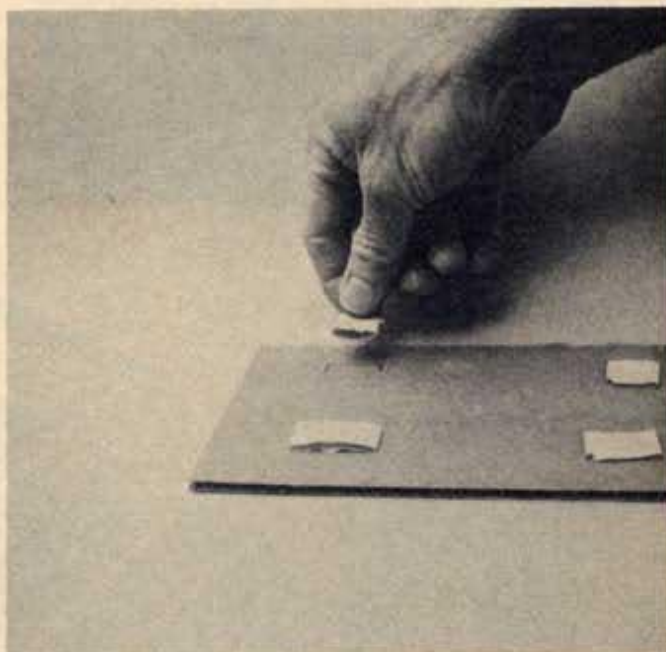
Place model on cardboard and mark around tires. Be sure to center model for good balance.



Board is finished in a jiffy and is ready for model to be placed on.

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HANDY DETAILING BOARD



Roll up four strips of masking tape for hold-down pieces. Two-sided masking tape works best but is not always available to everyone. Stick tape on spaces marked off.

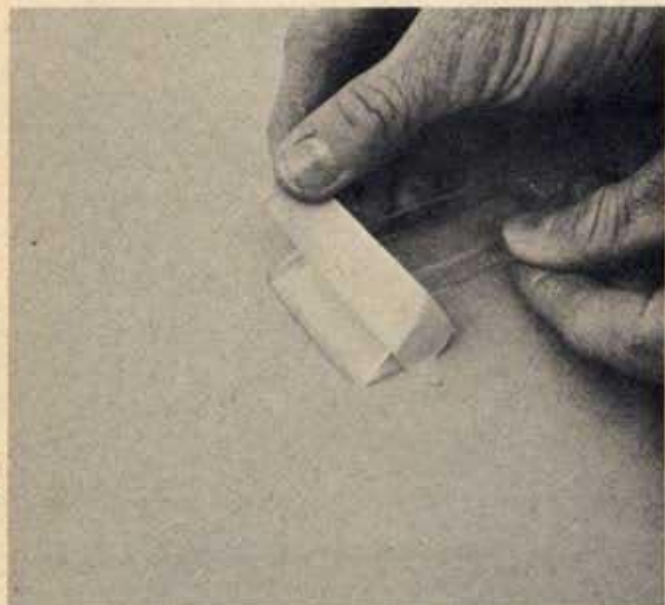


Holding the board instead of the model makes it easier to do detail work and saves handling the model.

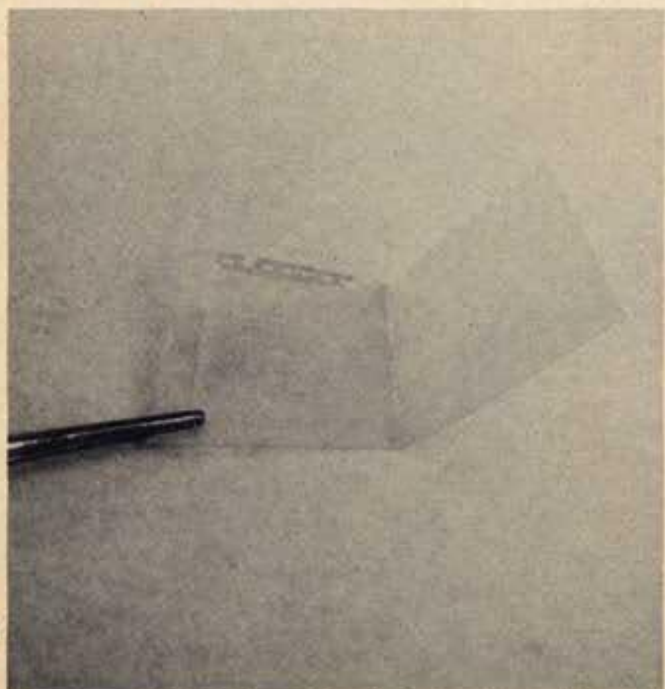
don emmons' **DETAIL FOR REAL**



TINTING WINDSHIELDS



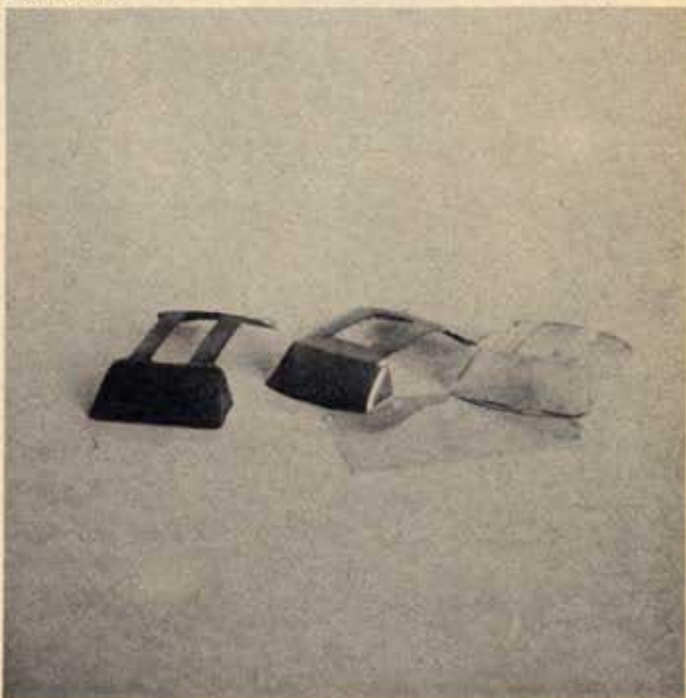
Tape outside surface of windshield so paint overspray will not settle on it.



For flat windshields or side windows, tint a piece of clear sheet plastic in the same manner. Wallet photo holders work well for clear plastic sheet.

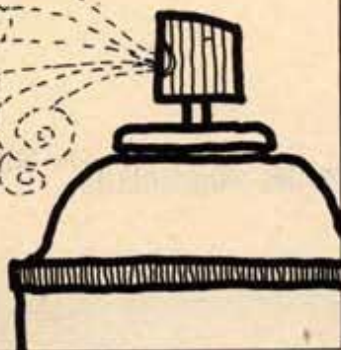


Lay part flat and spray with Candy color paint. Make sure that surface is free of any dust. For a dark gray or smoked finish, use a very light coat of black.

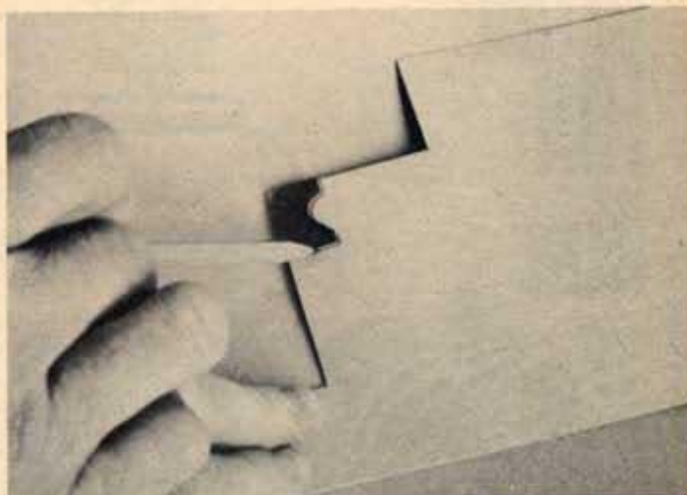


A wide array of colors can be put on both flat stock or stock windshield units.

don emmons DETAIL FOR REAL



REAL WOOD FIREWALLS



Hold plastic part on 1/32-inch plywood and trace around part as close as possible.



Cut out new firewall with Jewelers saw. Important: cut on inside of line or part will be too large.

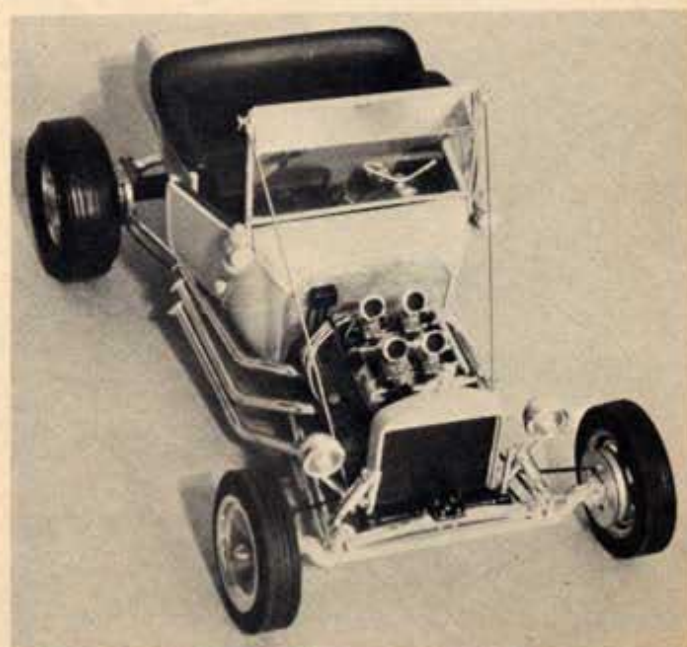


File sawed edges and check fit with body.



Place 1/32-inch chrome pinstriping tape around edge of wood.

38 / model car science



The finished T-roadster sports a wood grain firewall. Now it is not just the plain kit model.

don emmons' DETAIL FOR REAL



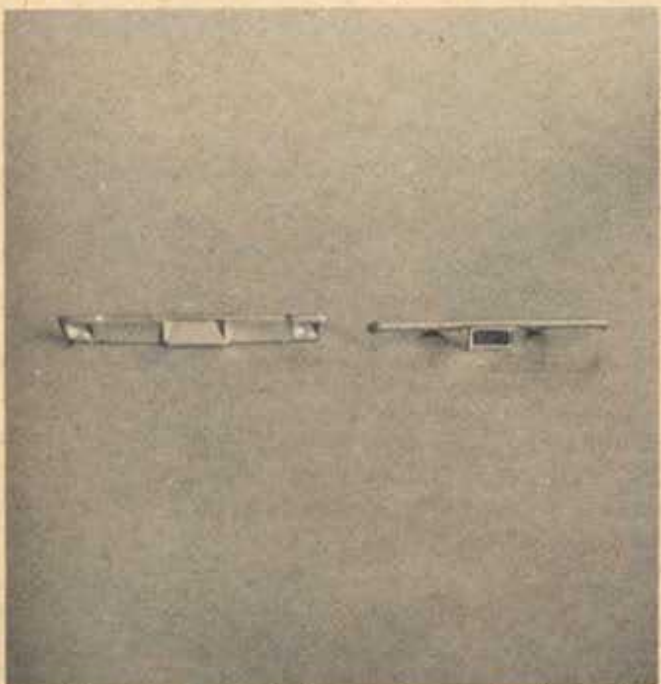
FIBERGLASS LOOK FOR BUMPERS



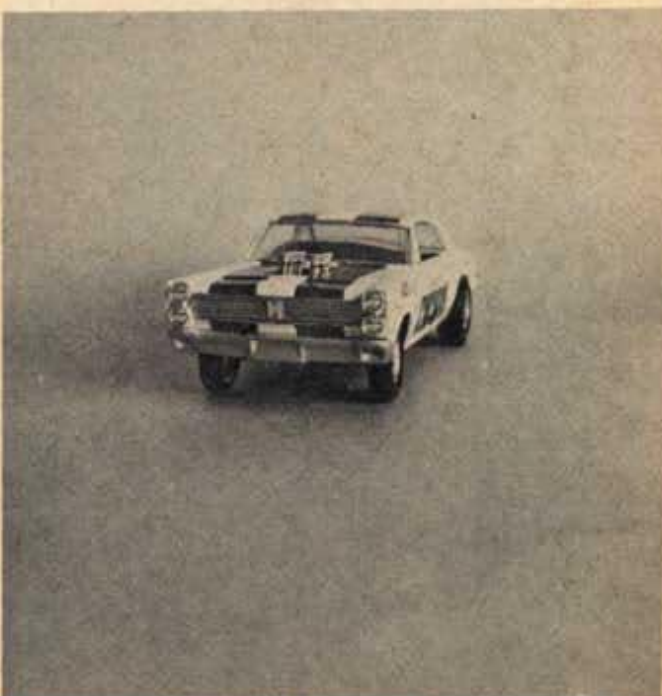
Here again we hold the unit with a piece of tape and a clothes pin.



Spray the part with an even coat of Silver Base Coat or Flat Aluminum paint.



Both front and rear bumpers are usually changed to fiberglass because the real lightweight cars need these fiberglass units to eliminate as much weight as possible.



Here we see the Comet fitted with a painted front bumper. This procedure only takes a few minutes but adds so much realism.

Want a grabbin' SPEED RIG that's simple and rugged, with a low C.G. . . . ? Here's how to set it up, the Riggen way!

PRO TEAM TRACTION

When the time comes to get the power of any slot car to the road, Riggen is a name you'll want to remember. The Riggen Tire and Manufacturing Company of Torrance, California, specializes in keeping a smooth flow of power firmly on the track to get peak performance out of a racer. With their complete line of tires and wheels they can handle any traction need, punching out perfectly concentric foam (Super Sponge), silicone, and German rear slicks and hard, narrow, low friction fronts.

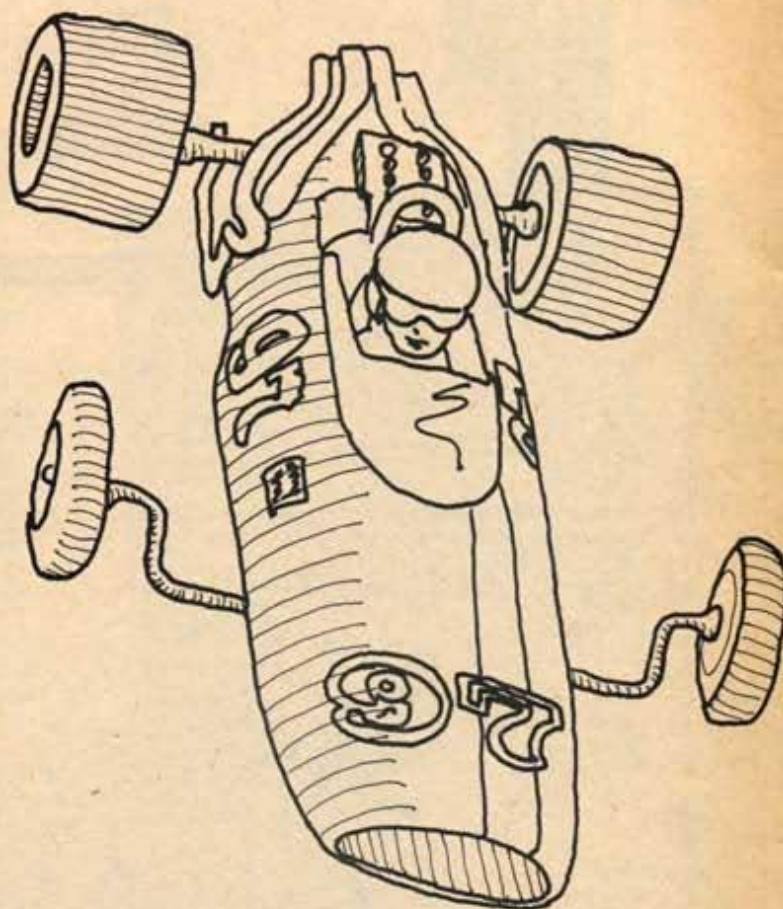
Riggen's championship pro team is just one big extra way to keep their products on the top of the heap. Any advancements in the handling department made by these men are carefully taken into consideration for future release to the public. Super-quick Riggen team drivers like Frank and Tom Taber, Sam Berg, and Sharon Peters are hard to beat anywhere. Their participation in the highest caliber competition at the pro driver hangout of American Hobbies in Hawthorne (BZ, Cox, Russkit, Riggen, MCS, et al) assures the consumer a line-up of well proven products.

One such race proven release came when low slung brass rod chassis began to rise in popularity. For a simple, rugged front end, with the advantages of low center of mass and independent rotation, the drop wire axle was created. In answer to the plea of their drivers, Riggen swung for some beautiful pin-hole type wheels, with sharp looking three-pronged knock-offs neatly chamfered for that retaining drop of solder. When it also became apparent that the German Formula sponge was on its last leg in pro competition, Riggen struck back with super-sarto "Super Sponge" skins packed in neat little plastic cases; with the same spinners as in the pin-hole kit, only this time threaded. All this can be had for \$2.59 (anodized) or \$2.49 (polished) in set of front and rear or a buck less for just the rear. On the subject of traction, the 5/8th greys supply the grab on all of the MCS team sports cars. As most people know, foamies run pretty raunchy when dry; so Riggen has formulated a wintergreen-based traction goop that really ups the stick in the turns, with a built-in "controlled drift" additive.

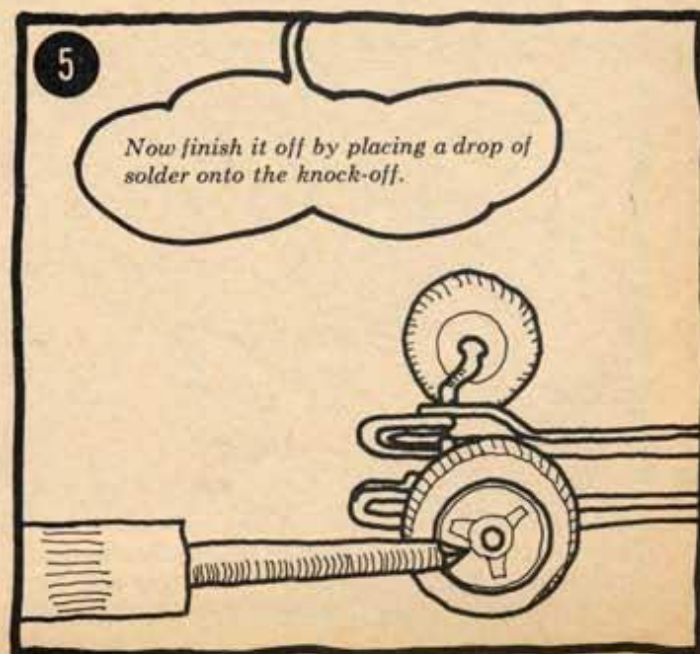
Late news brought straight from trackside shows that the best in foamies is on the way. Frank Taber, running one of the blue-and-gold Riggen team cars, has been experimenting with a new pair of low-profile rear wheels in the same size category as Riggen's brand new mini fronts shown in the photos. The tiny blue foams on the ultra-rapid Ferrari GP gave him what he felt was the best handling formula car yet.

So like Goodyear, Firestone, and Dunlap, Riggen is in the tire business. They learn through competition, and their factory team can always be counted on for the best.

40 / model car science

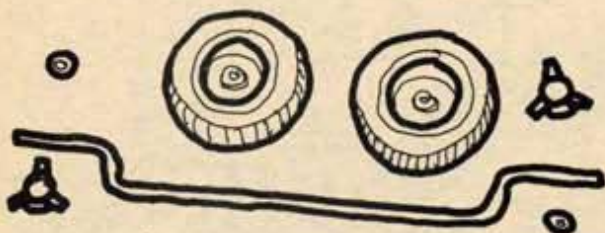


By Chris Chan



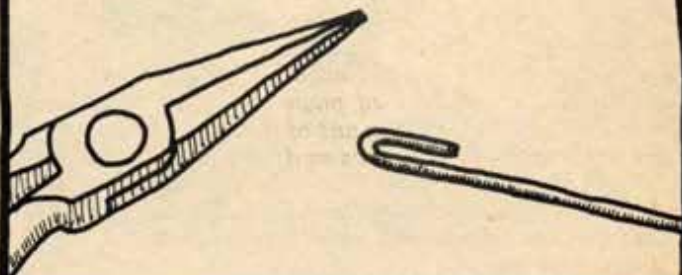
1

Newest in high performance slot car parts are these pin-hole wheels, just the thing for a low slung brass rod chassis.



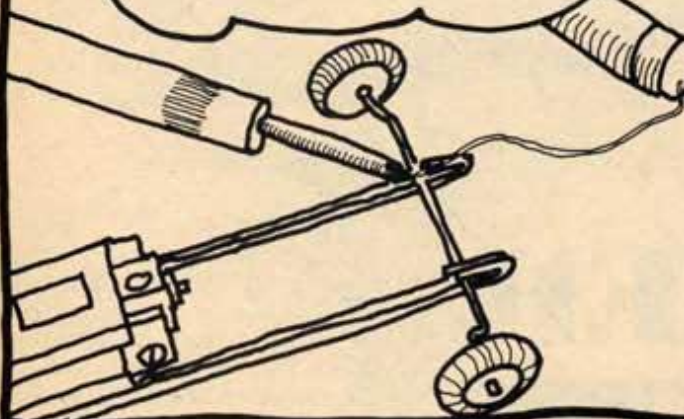
2

Use a needle-nosed plier and form the rod or tube to loop over the axle.



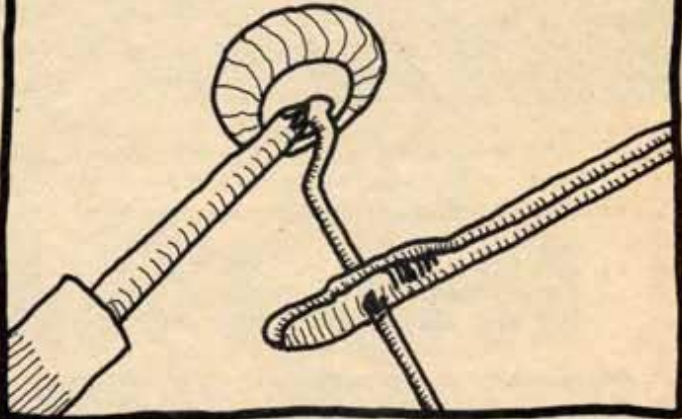
3

Carefully center the axle in the frame rails and space the chassis the proper distance from the ground; then solder it in.



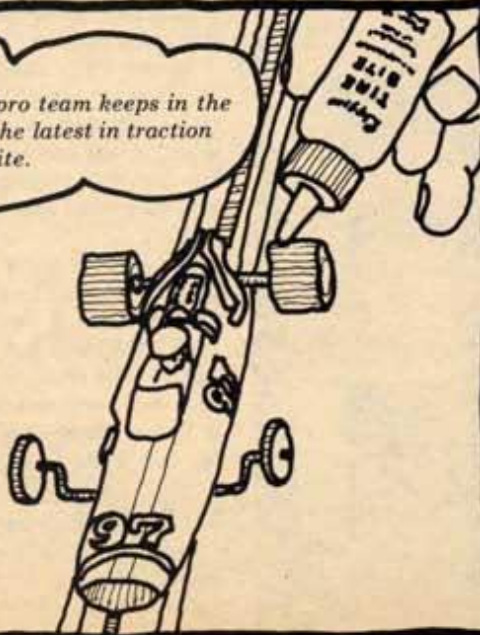
4

Space out the wheels and solder the inner retaining spacer in place.



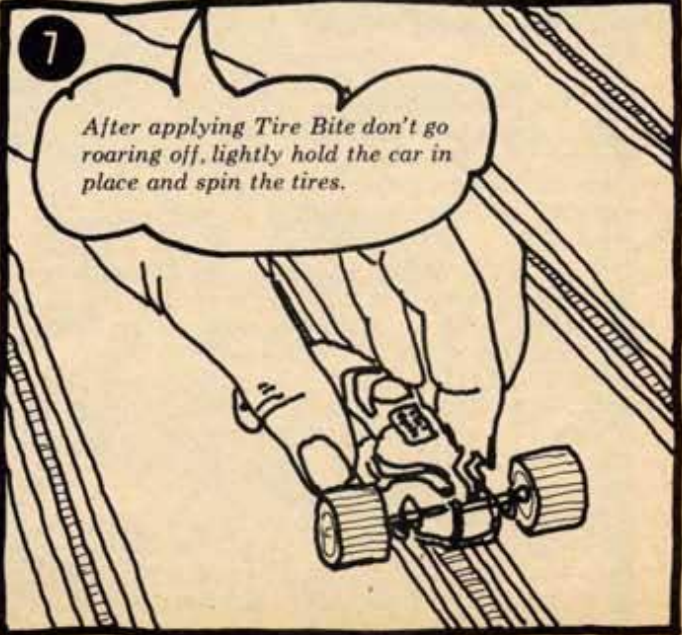
6

Riggen's own pro team keeps in the running with the latest in traction tonics, Tire Bite.



7

After applying Tire Bite don't go roaring off, lightly hold the car in place and spin the tires.





You can't get a race car to the track scene without a transporter rig . . . Here's one for the HO speed machines.

HO-TOTER

CHANCES ARE YOU'RE ONE OF THOSE OLD FASHIONED TYPES who carries his models to the track in a big wooden box. Now really; how many full size racing cars do you think are carried to the track in a big wooden box? Further, how many of these wooden boxes are actually carried by a 40 or 50 foot tall giant? Darn few, that's how many.

No, we really don't expect you to load all of your models on a miniature car transporter and have little Mr. HO drive it to the track. You will have to admit, however, that a transporter truck of some kind IS a most common sight at full size races.

So, why not make a *model* transporter truck that looks like it at least could have carried some of your racing cars to the track? OR, why not buy one ready to install? The truck, in the photos, is one very neat, and realistic, answer. Its rugged, cast metal comes assembled, painted, and ready to place near the pits on

The Corgi transporter truck and trailer are sold in this gift set, with a "load" of six sedans, or by themselves. All are hefty, cast metal, and scaled to fit either HO, or "O" size models.

Photos by Bob Schleicher





The cab on this miniature Ford "cab-over" truck tilts forwards, just like the real one, to reveal a detailed engine and chassis.

This sequence of photos shows how the Corgi transporter duplicates the unloading action of the real thing. The tailgate snaps in place, the upper deck is supported by an "over-center" lever, and is lowered slowly by the two "hydraulic" rams on the sides.

your track. Corgi, the display model car people, make it. It's available, with trailer, for about \$7.00 at most toy and department stores. The "gift set" with the six Corgi cast metal sedans, is \$15.00.

The truck, or more accurately, the tractor, is an excellent reproduction of a typical Ford "cab-over" — a common sight on any highway. It has a full detailed interior, and the cab actually tilts forward, revealing a detailed engine and chassis. Even the small items like driving mirrors, air horns on the roof, etc., are accurate.

The trailer has room enough for six HO, or even 'O' scale, cars. It features a set of parking, or "landing" wheels that are automatically actuated to retract upward when the tractor couples on. A fold-down tailgate, and hydraulically-slowed lowering action for the upper deck, are included.

Both tractor and trailer are approximately 1/60 scale, which makes them suitable for either HO or 'O' scale model cars. The Corgi tractor and trailer transporter are hefty, well-detailed pieces of realism for any model racing pit area. Not a bad way to display a few cars on the shelf either.



SCRATCHBUILDING By Bud Burns

WITH A SCREWDRIVER

From out of the East rides Bud Burns, ready to take on the world's best scratchbuilders with nothing but his tiny golden screwdriver!



A few new releases, and a few old favorites from Dynamic, and you're in business. Take your pick, side-winder or in-line frame for the new 26-D Mabuchi. Let's take it in steps, starting with the inline chassis, #451, priced at \$2.98.

AVAILABLE DYNAMIC CHASSIS FOR THE 26-D

Part Number	Type	Price
451	Dynaflex front & rear suspension for inline mounting.	\$2.98
452	Dynaflex front & rear suspension for sidewinder mounting.	\$2.98
476	Dynaflex rear motor mount only for in-line mountings.	\$1.39
477	Dynaflex rear motor mount only for sidewinder mounting.	\$1.39
520	Rigid (non-sprung) chassis, front and rear, for inline mounting.	\$1.98
521	Rigid (non-sprung) chassis, front and rear, for sidewinder mounting.	\$1.98
557	Dynamite rear motor mount only (rigid, non-sprung) for inline mounting.	.98
558	Dynamite rear motor mount only (rigid, non-sprung) for sidewinder mounting.	.98

Scratchbuilding — Bah! Who needs it? A fella can accomplish just about anything the most avid scratchbuilder can, just by owning one tool — a screwdriver! All you need is a small pile of Dynamic parts, and a few minutes time and zingo, that's all there is to it!

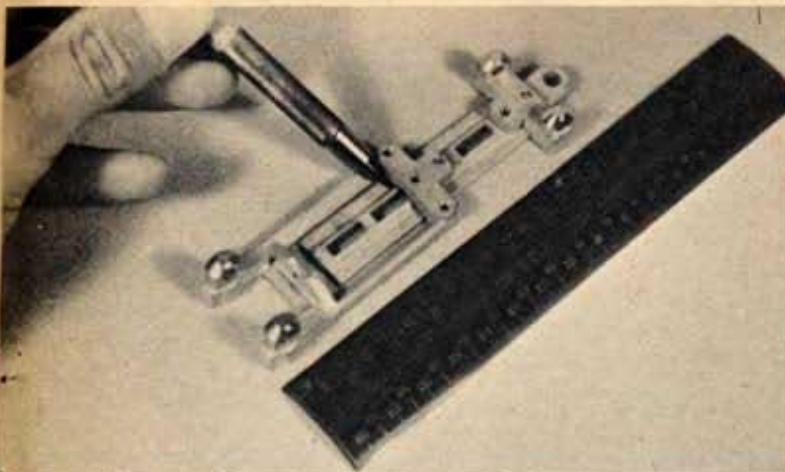
I hate to start something — but I'm going to! I have to really take exception to this "scratchbuilding" malarky that a guy hears so much about. I mean, look at the situation that exists now. Every "scratchbuilt forever" character I have met claims the main reason he builds his own frames from the ground up, is to obtain the lightest frame possible. The Russkit team really went all out to get super-lightweight chassis, right? So what's the latest rage now? You guessed it buddy, they're adding weight to these super-lightweights, because they've found it aids cornering! Then what it boils down to is all of that work was just for the heck of it, right? As long as the weight is added in the right place, down low in the frame, the car corners better. Who needs ultra lightweights that are fragile?

Personally, I do my "scratchbuilding" with nothing more complicated than screwdriver! I buy all parts right over the counter too! And they're not hard to find either! Sound impossible? It's not. I buy Dynamic chassis components, and you'll have to do a lot of convincing before I'll change my mind that these guys build the #1 chassis components in the entire slot racing sport! The stuff is inexpensive, strong as iron, and light as aluminum, which is what it's made of. Fragile it is *not*! Win races, these items DO!

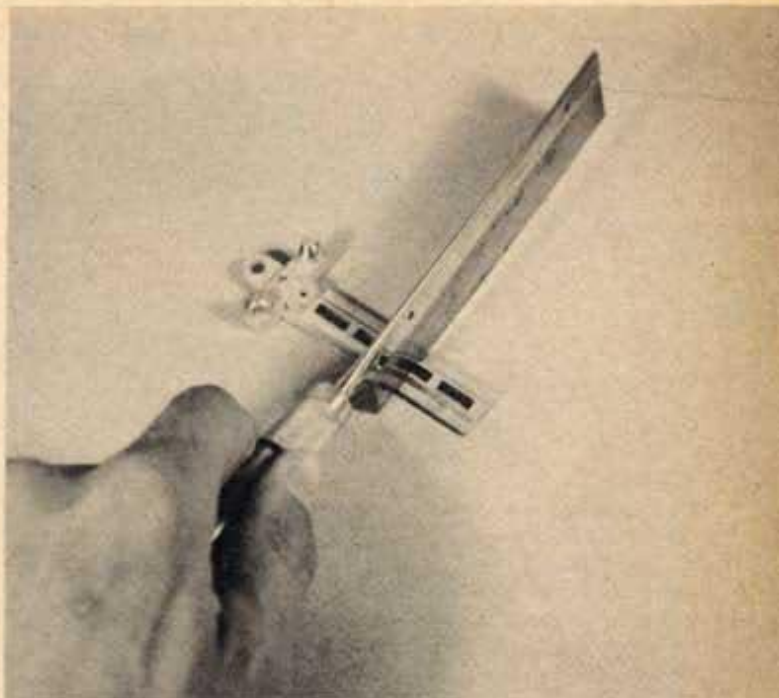
How long does it take to build one? Few minutes, I'd say. And when it is together, you can depend on one thing. The wheelbase on the left side of the car will be exactly the same as the wheelbase on the right side. It's not that easy when you scratch build a chassis from small diameter tubing.

A fella could almost build an entirely new chassis each month, just from the new releases from this truly "dynamic" firm! Their latest is the Dynaflex chassis for the 26-D ball-bearing Mabuchi. It's a great chassis for a great motor. The photos tell the story. Follow them and you'll end up with a real bundle of competitive fury, and it won't break your billfold either! And you can get it built before lunch time rolls around, without even straining!

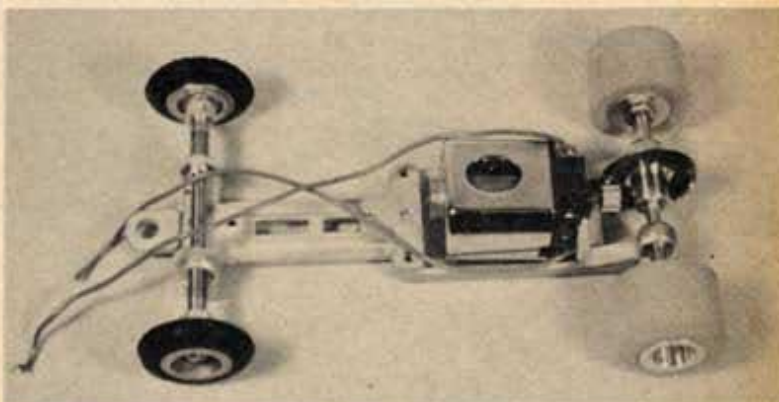
Like I said — Scratchbuilding, who needs it?



Temporarily secure the tongue to the motor mount with a screw. Measure for the desired wheelbase. Mark the tongue, remove it, and cut it off with a razor saw.



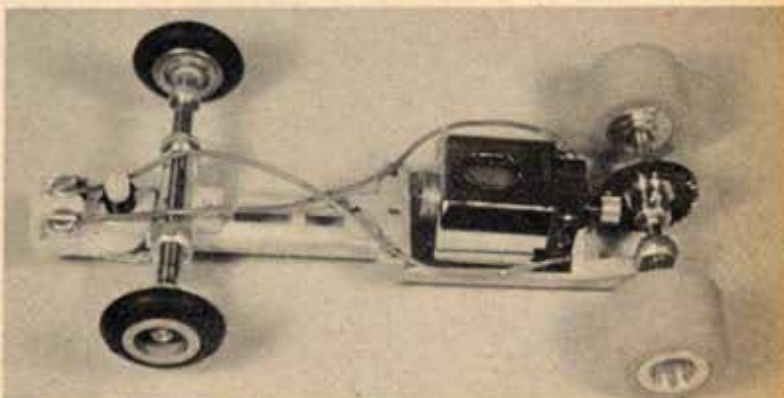
To show that I'm strictly "non-partisan," I'll use Testor's version of the 26-D. Dynamic's "Mad Hornet" sells for \$3.00 also, and naturally fits this frame perfectly. Mount the motor with a screwdriver (what else?).



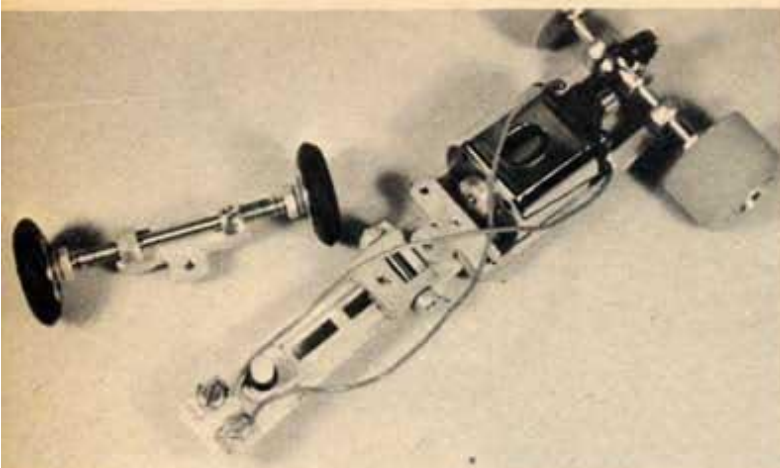
Fit a stainless steel front and rear axle in place, using suitable spacers to obtain the desired tread. Dynamic's #675 High Crown-Hard rubber front wheels and tires (\$.98) are perfect. Their #668 wheel and tire set (\$1.29) is fine for the rear. I prefer a Cox crown gear (28 tooth) and a CorBen 7 tooth pinion, for all-round superb acceleration (4:1 ratio) and braking.



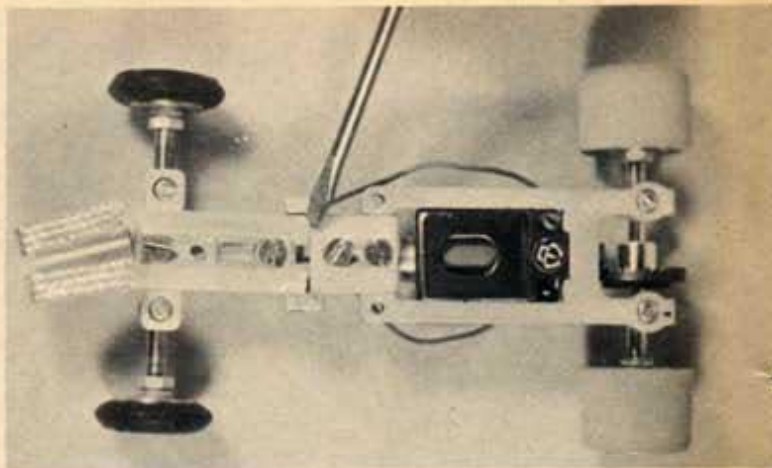
I used a Champion of Georgia CP-205S, 3/16" shank guide, but you can use Dynamic's excellent #660 guide shoe, for \$.39.



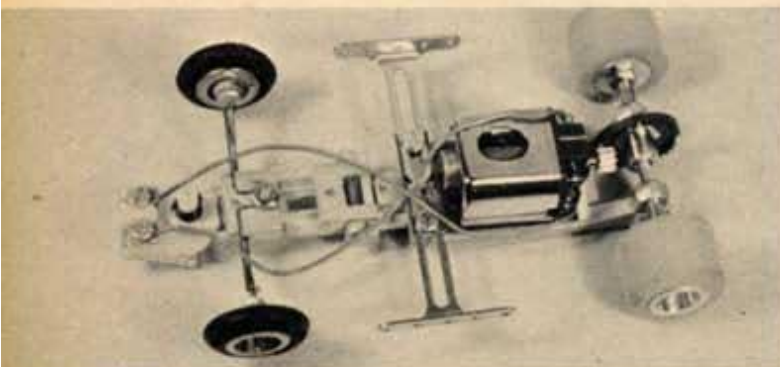
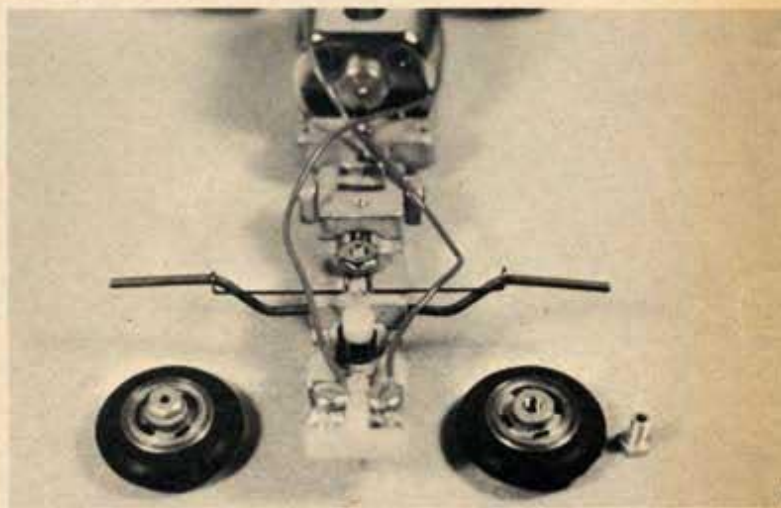
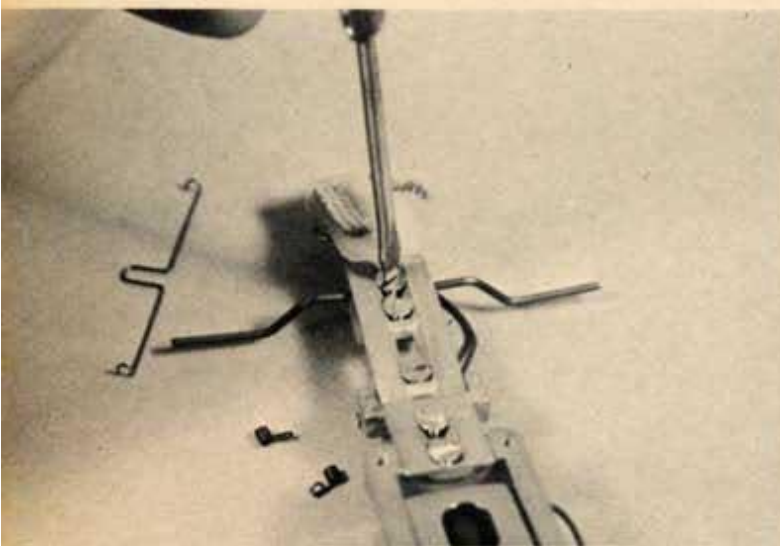
The finished Dynaflex chassis and motor went together in just a matter of minutes. There is one competitive machine!



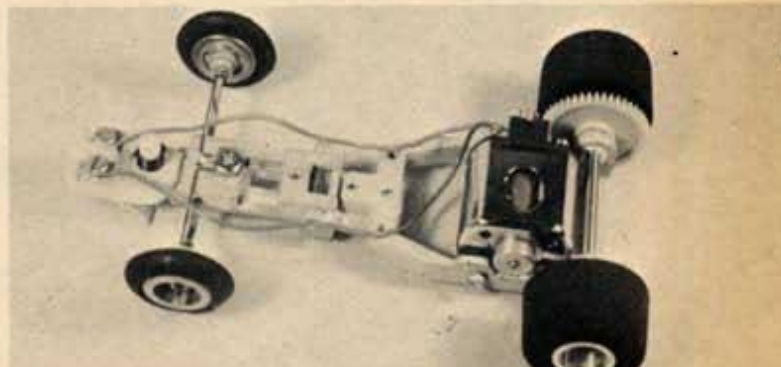
Still on the "one screwdriver" kick, you can add a hinged front end in seconds! Pick up Dynamic's #543 hinged tongue, which sells for a huge 98¢. Screw it to the motor mount. The tongue will have to be measured and cut again, then attached to the hinged tongue. The gap that you leave here determines how far the tongue will drop before it stops against the end of the motor carrier. Adjust it to suit the way you like it.



Want a wire front end (1/16" diameter) without giving up the independent suspension? Screwdriver time again! Use Dynamic's #586, wire front suspension, selling for 75¢. Remove the Dynaflex front suspension with your screwdriver, and attach the wire unit. You can still use your #675 front wheels and tires by screwing #761 reducer set, selling for 25¢, into each wheel. It converts these 5-40 threaded jobs to 1/16" smooth bearing surfaces. The wheel shown on the left has the reducer mounted, the right does not.



When you finish with the front wire suspension, screw Dynamic's body mount kit #401, which goes for just 59¢, to the chassis. That's all cousin, you're ready to race!



You can repeat every step using their #452 Dynaflex sidewinder frame too. Just \$2.98. You guessed it — all you need is a screwdriver!



THE CAMARO IS HERE TO STAY and whether 1/25th scale or full size, it is the big one for '67. This is going to be a very good addition to the Chevy line. The 1/25th scale model is a natural for a big drag car. When planning this one I decided to make it an all out fuel burning racer. The blown 427 Chevy engine setup is from the AMT '67 Corvette Fastback kit. This kit was chosen as it offers the blown 427 engine as an optional setup and would not waste the entire kit by taking this engine. There are other kits which offer the same set up, or if you prefer, even a big blown Chrysler can be set in.

The Camaro's body was left basically as is, but has the custom spoiler fitted to the rear and the custom hood was selected for a cleaner look. The front of the frame was the only part modified. First the front wheel wells were cut away at the top edge of the frame rails and the

front crossmember was cut off even with the lower edge of the frame. The new tube crossmember was made from plastic runner (tree) and bent to shape. It should be bent so it drops down about the same as the stock unit just removed. Glue this to the inside edges of the frame rails.

The front axle is from the '67 Falcon kit as I wanted a tubular unit with the cross spring instead of the one that comes in the kit.

AMT has a new innovation in the Camaro kit with the use of wrinkle slicks. These are white plastic units which are to be painted flat black and then the paint is filed off the tops of the letters. These new slicks are a must for drag cars.

It is unfortunate that the rear seat portion of the interior unit was not cast separately, but it can be removed without much additional work. Enough said; Let's get to work on our dragster.

MEAN 'MARO FOR THE STRIP

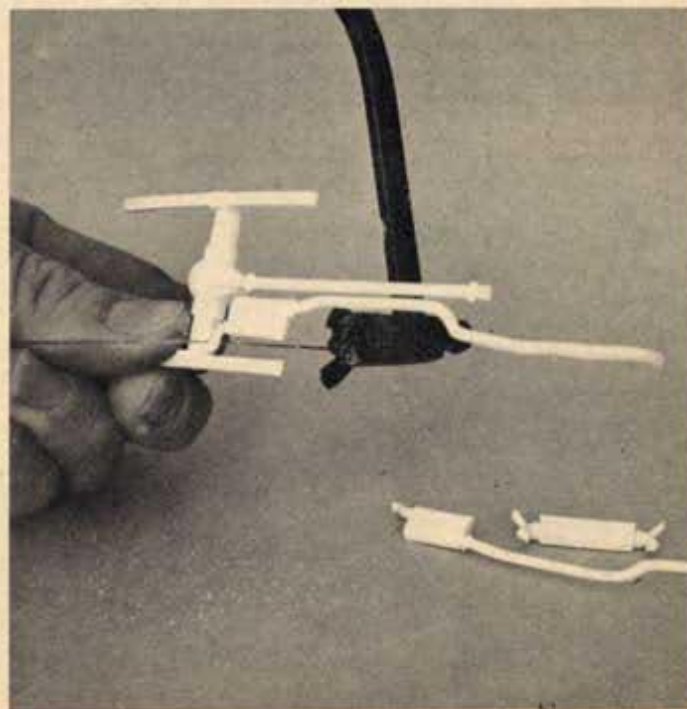
Eat up the asphalt
with a dragin' Camaro!

By Don Emmons

Photos by Don Emmons



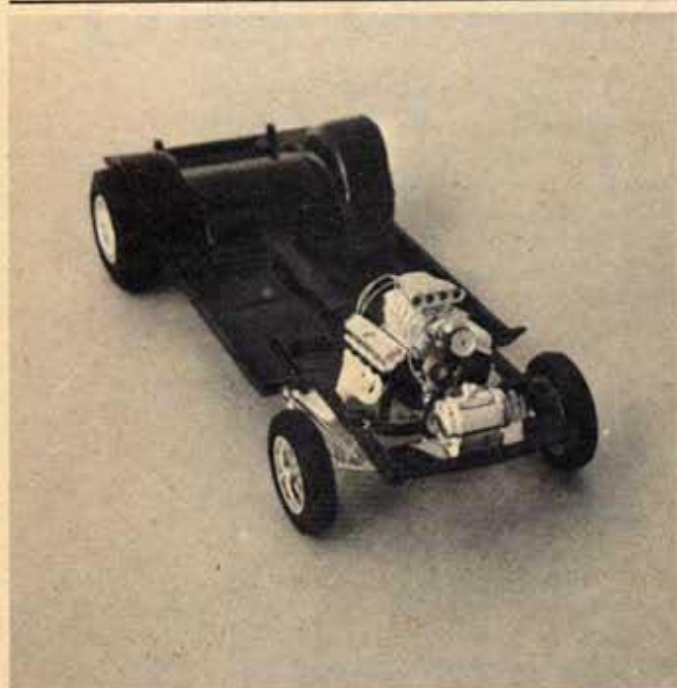
Chassis work is nearly completed here as described in text. Spring perch on front of new crossmember and shock mounts on frame were made from sheet plastic.



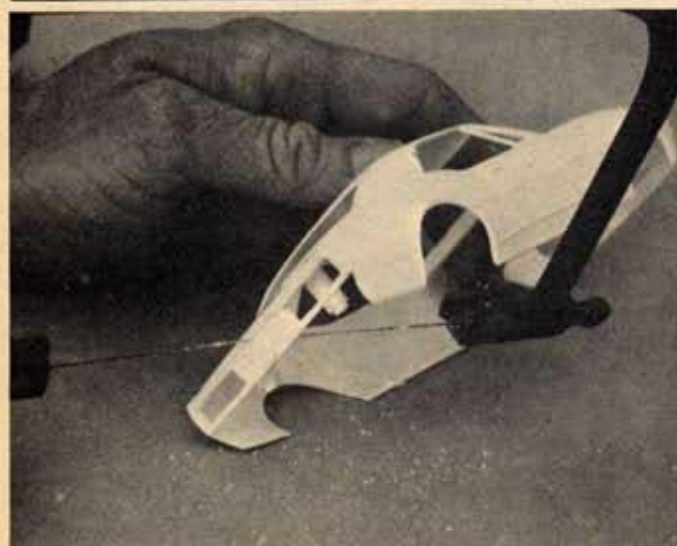
Cut away all exhaust pipes from the rear end unit and file areas smooth.



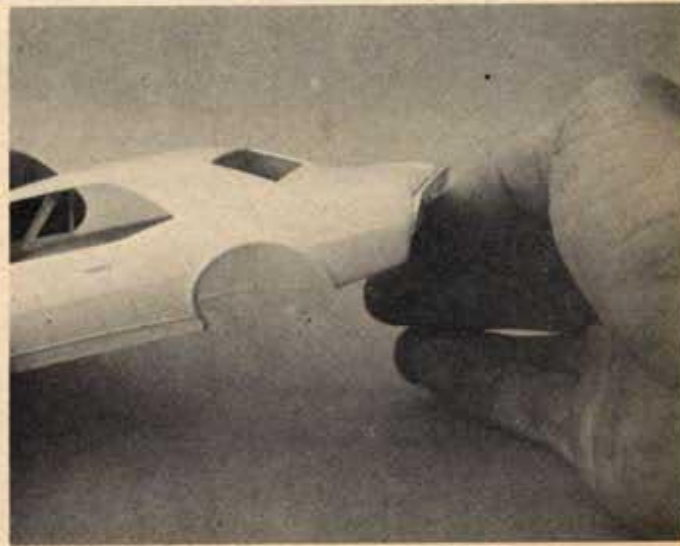
New wrinkled slick has been painted flat black and lettering filed.



Chassis and engine are about ready for body. Fuel tank is sitting on piece of silver sprayed thin sheet plastic, glued to underside of frame. Shocks on front axle must be bent inward to meet mounting plates on frame.



Cut away the entire rear portion of body if you want to run the new spoiler unit. Sawed edges should be filed for proper fit.



After filing and checking fit, glue spoiler in place. Let dry and putty as necessary. Sand puttied areas with #320 Wet & Dry paper, then #400.



File custom hood flat and sand smooth.



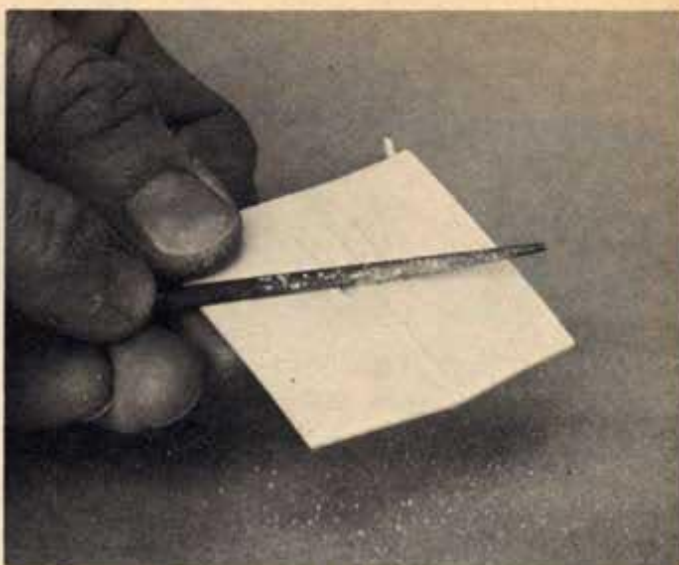
Cast turn-lights on the front pan should be filed off and then sanded smooth.



Interior is finished in flat black, with metalflake seat. An additional bar was placed behind seat for securing shoulder harness.

FINISHED MODEL INFO:

Front wheels are from AMT's '32 Victoria kit. Spokes of these and rear wheels have been painted with darkened Flat Aluminum to simulate cast metal finish. Small front tires are plastic units from Camaro kit. Front grille mesh has been painted flat black leaving outside area chromed, as well as "SS" emblem. The car is painted with AMT Fire Orange Metalflake. Injector holes were painted with a mixture of Flat Red and Aluminum. Headers are from AMT's '67 Cougar kit and were painted Flat White. Engine compartment is Flat Black. Body chrome (windshield, door handles, lettering, etc.) was brushed with Pactra Chrome Silver.



Hold hood to body and mark off area for injector scoop. Cut with a jeweler's saw, but first drill a small hole so the blade can be placed through it.



Rear seat should be removed and can be done by drilling a hole in the seat cushion and cutting away the lower seat area. Glue a piece of sheet plastic in place of the cushion.



Outer edges of taillights were painted with Pactra's Chrome Silver and lenses are Candy Red. Bumper was sprayed silver.

(PART I)

THE MCS PROJECT CAR

A portrait of frustration . . . the sad-but-true tale of the first gas-powered, radio-controlled, slotless slot car.

By Spencer Murray



For some years, we had harbored a secret desire to somehow bridge the gap between actual automobile racing and "playing" with miniature, fragile autos on a slotted course. Chief among the drawbacks to the former was, naturally, the high cost of building and maintaining a real racing machine; while the latter's shortcoming was the total lack of realism. Somewhere in between there had to be a middle ground; where all the action, sounds, smells and seat-of-the-pants driving existed, and where there was no lack of reality.

Of course, yours truly had gone through the go kart world being among the original five, in fact, who developed the sport. Here was a real car, one that a hot shot could drive, slide and race **himself**, without risking the thousands of dollars that a genuine race car would cost. And any pair of go karts made a race; there was no need to wait for semi-regular, full-scale events. Would-be GP drivers need only gas up their pint-sized machines, climb aboard, and head out on the parking lot or deserted roadway to play Novulari until it got dark.

Then along came slot racing and GP-ing went indoors. There was all the action of real fender-bashing, provided one had a course layout, or access to one, and a few partners willing to race at the same time. But slot racing doesn't fill the craving in many of us to do battle in a wheeled vehicle; one must stand helplessly by and try to

substitute actual participation with moving a thumb or forefinger half of an inch. And electric motivation is no substitute for the unadulterated torque of the internal combustion engine. There is no real mechanical aptitude associated with slot racing, unless one includes the ability to mess with wires and screws sized more properly for a watch.

No. There has to be a meeting point — something smaller than a go kart, yet large enough to be "real". And it must be accompanied with real action, four-wheel slides, the staccato bark of an engine and — most of all — a driver's choice of action as opposed to following a groove on a pre-determined route.

Here enters the picture, one Ian Kagihara, a Hawaiian-born racing enthusiast of small proportions but vast ambitions. It was Ian, in fact, who developed the racing kart that the author drove to many minor victories in our 50th State, culminating finally in the Hawaiian State Championship two years running. Ian's touch with karts was his aptitude with two cycle engines, a holdover from the days when he held several international records for speed and endurance with control-line model airplanes. If Ian showed up at a race meeting, back in the '50's, everyone assumed quite naturally that his entry would be among the top finishers — if the power he could coax out of an engine didn't outstrip the strength of his control wires to send the



The moment of truth! Spence Murray and Ian Kagihara, full of great expectations, sent the MCS Project Car off on its short, happy trip . . . and a quick wipe out!



plane winging off somewhere toward Tahiti or Christmas Island.

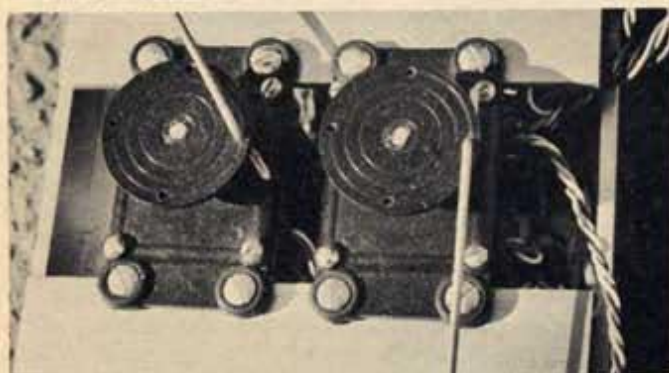
Ian migrated to the mainland a few years ago; model airplanes had lost its interest to the Islanders; Oahu was temporarily without a dragstrip; sports cars were no longer drawing crowds, and slot racing hadn't yet asserted itself in Honolulu. And when Ian came Stateside, so did his love for hopping up engines and going fast.

Having known of Ian's intensely interesting engine background, his victories with model airplanes, and knowing that he was presently turning his talents toward RC airplanes near Los Angeles, MCS approached him to pose the question of automobile racing on a scale larger than slot cars; on a smallish budget yet with all the spills and chills of the real thing.

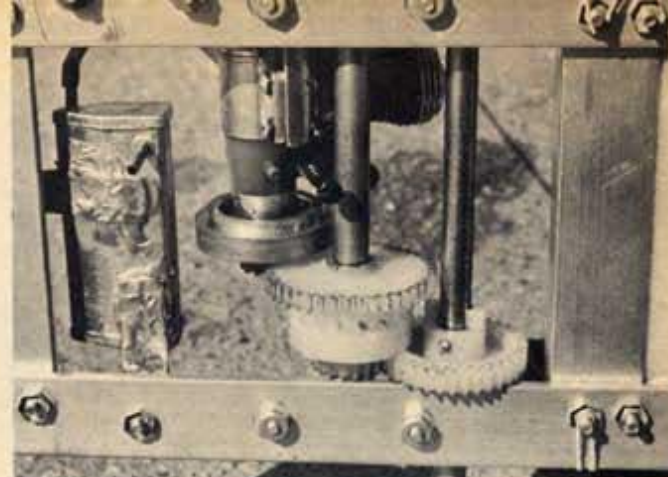
By now the answer should be fairly obvious, radio controlled gas powered cars — simple in contemplation but with complexities not yet entirely solved.

Prior to 1964 there were no large detailed, accurate models available of either American or foreign cars. There were toys, to be sure, but usually they were cumbersome and built to receive a child's jolts. Thus they were overly heavy, and few were offered in scaled proportion to each other. RC cars had been built using body shells from 1/24 cars. In fact, one ran over two years ago on the floor

continued on next page



For guidance, the frustration machine used an Orbit "3 plus 1" proportional RC unit. One servo device operated the tie rod for the front Ackerman steering. Another worked the exhaust-slide throttle on a Cox .090" engine.



The Cox .090" gas engine was bolted to the chassis and connected to the rear axle through a hefty series of nylon reduction gears . . . there was no telling how fast the mill would rev under this load.



A rectangular chassis of lightweight aluminum was specially made up, with the proper wheelbase, to take a Monogram Big T or Vette body.

of MCS's office, responding magnificently to the commands of the transmitter; but without sufficient speed to even resemble the real thing in freeway traffic. While the creation did prove that miniaturization had come to RC, it was too small to hold more than two pen light batteries which kept its HO electric train motor to just a few measly revs.

But our problem was solved when Monogram introduced its line of 1/8th scale cars — a physical size almost exactly halfway between go karts and slot cars. Here were machines big enough for a guy to eyeball and appreciate; and if outfitted for racing, a tennis court or parking lot would be the equivalent size of Indianapolis, Daytona or the Nurburgring.

The biggest stumbling block was out of the way; all that was needed was to equip the chassis with RC steering, brakes and throttle, install a model airplane two cycle engine and go!

Our Ian Kagihara went to work forthwith, outfitted with an Orbit 3 + 1 proportional transmitter/receiver, a Cox .090" engine, lots of ingenuity and a shop full of surplus gears, wheel spindles and a jeweler's lathe. All MCS had to do was wait — wait until the first car was engineered, built and tested, then wait again while a duplicate was assembled — for it takes two to make a race.

Then the problems began to stack up, once the project was started. For example, we insisted that the car be true scale. We began with a Monogram Big T, discarding everything but the body and fabricating a rectangular chassis of lightweight aluminum angle. To the latter was fitted a wheelbase of Monogram's original proportions, then everything needed for full operation of the Project Car — as it came to be called — had to be fitted where the compo-

nents wouldn't interfere with body installation or be visible.

The first problem came in the wheel-tire area. There were no rubber automobile tires available to Monogram's 1/8th scale. Many model airplane manufacturers, of course, offered doughnut-like tires for large RC planes, but they in no way resembled an auto's tires. For the time being, then, we settled for the display-only tires with which the Big T is equipped. Compounded of a semi-rubber and plastic, they provide no bite or resiliency — but tires they were, and they looked like they should. Being of the no-stretch type, Ian had to turn all four wheels out of aluminum stock, splitting each in half and reuniting the halves with set screws. Since the tires wouldn't stretch to be pulled over the wheel beads, the inner and outer wheel halves had to be screwed together with the tires sandwiched between. One wheel was fitted with a keyway so it could be locked to one side of the driving rear axle, but the others were reamed to merely roll on their spindles. Many hours of work in this department were to go for naught, as will be explained later.

Adapting the radio gear and the servos to the chassis was simple mechanics, though the chore was tedious. We knew at the outset that the eventual speed of the car would necessitate its having suspension, primarily to reduce inherent vibration which could damage the RC gear; but also to help the driving wheel stay on the ground over rough macadam surfaces as found in parking lots. Ian computed potential speed as an actual 50 miles an hour flat out, with the car in top form. And even a pinhead-sized pebble at that speed would jolt the drive wheel into the air for a considerable distance with a potential loss of steering control and very probable destruction.

The steering was simple and based on the principle used in real cars — the Ackerman system. A rectangle was made of light steel with pivots at each joint. Spindles were brazed to each side and the wheels fitted. One of the long sides of the rectangle was bolted to the chassis while the other thus became the tie rod. A servo was connected to the tie rod and that was that.

'Round back, a Cox .090" engine with throttle control was bolted to the chassis and connected to the rear axle through a series of nylon reduction gears — and Ian had to guess at reduction percentages at the outset. There was no telling how fast the engine would rev under a load such as this car — there was no comparison here between the car and an airplane.

A servo was connected to actuate the exhaust-slide throttle and a bench-run conducted to see how everything functioned. As expected, no trouble. The engine fired at the first crank out of the box and quickly wound to roughly ten thousands — before centrifugal force acting on the drive wheel opened up the tire and it flew from the rim and hurtled up the driveway and out of sight. Well, an adhesive would cure that problem.

An RC-equipped airplane has to fight only its engine's vibration — except during takeoffs and landings which, of course, are conducted for only a brief time and at low speed. Too, most builders use spring steel landing struts which absorb most of the shocks of taxiing. The MCS car would be in contact with the ground all of the time — hopefully — so Ian packed the servos and receiver in twice the foam rubber padding he would have used on a plane of equal size and power.

At this point nearly everything was of an unknown quantity — that is, the engine ran fine on the bench and the throttle and steering systems functioned perfectly while the car was at rest. But getting the engine started and the car off and running was surely to be, as the saying goes, something else. So we suggested that additional necessary components be left off until early bugs were eliminated.

One thing we knew the car was to need, was some method of disengaging the engine from the wheels — so the car could idle while at rest, among other reasons. There were no commercially-made clutches available that we could find. However, something in the centrifugal-type line, as used on motor scooters or go karts, but perhaps a tenth the size, would have adequately filled the bill. A full-fledged engineer with a complete machine shop and experience in mechanical intricacies could have undoubtedly whipped up something. But we were hoping to use parts already in existence and generally available, so the novice builder could duplicate our Project Car without an outlay of untold dollars for special components. In the back of this writer's mind, I can see a magnetic clutch as the eventual answer for harnessing the power and the high rpm's that a Cox or other .090" puts out — a clutch similar to that which drives the speedometer of a conventional automobile. It ought to work, but yet ahead lies much experimentation.

For these and various other reasons, we decided to leave the clutch off at the outset and contend with restarting the engine each time the car was brought to a dead stop.

Another vital necessity is a set of brakes, for the utmost in automotive realism as well as for protection of the car itself. The ultimate Project Car must rely on true stop-ability, more than mere engine compression can give, for there're always those hairpin turns at the ends of long straightaways we'll be contending with. Ian unearthed a pair of fine little internal expanding units, built to be used on a large RC airplane. But again we already had too many unknowns in suspect operation and we decided to shortcut work on the vehicle and simply get it running, using its

steering and throttle servos only.

It was a great day for MCS staffers when the Project Car was trundled out to Sepulveda Basin near Los Angeles, a city-owned model airplane flying park. The body was left behind for the moment as it would lend nothing to actual operation.

This was the first time that all our components would be in use at the same time, and in use, as it were, under fire. Chief mechanic Ian fired the Cox to life and held the chassis while the radioman checked the operation of the servos, trimming the throttle servo to give as slow an idle as possible without the engine quitting, and trimming out the steering for what the naked eye hoped was a true straightahead direction with the lever in fail-safe position. Even at idle the drive wheel spun to rpm's in the hundreds, despite the tower of reduction gears between it and the engine output shaft. Ian got himself up to speed first, then set the car on the ground and shoved it ahead. The operator advanced the throttle, for the engine slowed perceptibly as it acquired the car's full load and gave signs of dying, and in a cloud of blue haze the device skittered wildly for a hundred yards until it left its asphalt area and tumbled end over end into the weeds.

For the second round we took care to aim the missile-like chassis where it had a longer asphalt runway and again sent it off. This time screws whirled into the air and the outer half of the two-piece drive wheel bored straight upward to disappear overhead. This problem stemmed from the scale-but-unuseable tires which required halving the wheels for mounting. Nothing but frustration on this count and others; but, while the car was still geared far too high (estimates at idle speed averaged to an actual 30 mph!), its servos behaved obediently to radio command and the operator reported at least some semblance of steering and throttle control before the Project Car arrowed beyond eyesight and into the roadside weeds.

All agreed that an RC-equipped, gas-powered, scale model car is well within the realm of possibility. And ours has at least hurdled initial barriers though it has been proven that a clutch and brakes are definite requirements. Because of our method of trial and error and the use of a quality RC proportional system, we had spent far more money than we should have. But if we can survive the expense hurdles and come up with a truly realistic, racing car which others would like to duplicate and evolve into organized racing, then MCS will have accomplished its goal.

The one thing that has spurred us on throughout the project, is that there are gas powered, RC cars in operation. At present most are like ours; experimental non-prototypes that "sort-of" run, but not quite to expectations. Something is bound to come of all this, or else!!

As a matter of fact, one thing already has come of it. The Testor Company has recently marketed a 1/8th scale, RC-operated car, using electricity for propulsion instead of gas, but it is a step in the right direction. At least Testor has given the gas-car world a well-detailed, 1/8th scale car and steerable chassis to which bigger and better things could someday be added. But it must be remembered, that our Project Car began much as the earliest days of both slot racing and go karting — there was nothing from which to build operating systems and parts and components had to be begged, borrowed or stolen.

MCS can see a future in our Project Car and what may evolve from it; and for our reader's sake we are trying to get them in on the ground floor. And for that reason work on the MCS machine continues.

Next month we'll let you in on how and where we stand now — this instalment merely brings you up to some three months ago. Things — big things — have happened since, but the details must wait a month....

THE ASP GETS SHARPER FANGS

By Richard Helm

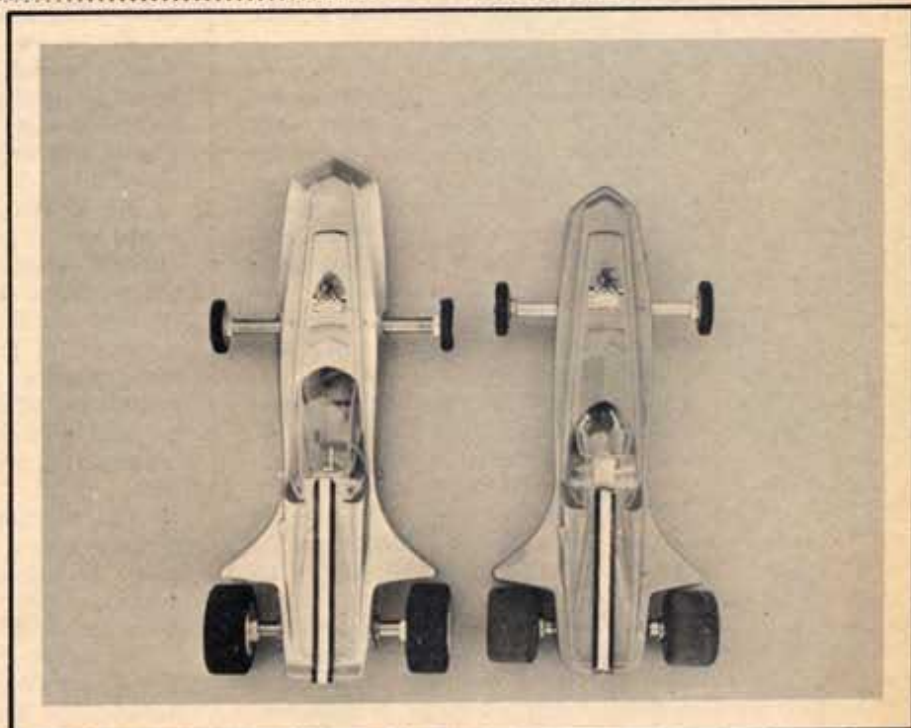
And a load of deadlier venom too, for LESS money!

No doubt about it! Racing does *indeed* improve the breed! This old adage has been proven over and over, and now Classic Industries proves it once more, for good measure. Their race-bred "Asp" ready-to-run, a red-hot favorite since it was introduced a while back, has just received a mild face lifting and a series of detail improvements under its sleek outer skin. The end result of this "updating" process is a faster, (you didn't think that was possible did you!) better handling (!) Asp!

It's not too difficult to find the main reason for the increased performance. Just flip the Asp over on its back (something that is pretty tough to do on the track) and gaze a second or two at that new, fat and stubby Mabuchi can, parked where the old low-down CM160 used to snuggle. You guessed it — the new Asp is using the new 26-D ball-bearing Mabuchi, that super-popular performer with the low-low price tag.

The 26-D has to be the greatest bargain in slot racing history! \$3.00 gets you this motor in three versions. You can have it with the brushes on the pinion end or the "front" end, or with the shaft protruding out of both ends for special sidewinder applications. And mind you, these motors use ball bearings on the armature shaft, and Classic's versions come complete with mounting brackets — all for \$3.00!

This 26-D motor has magnificent braking, thanks to beefy magnets that cover the large diameter armature rather thoroughly! The motor is rated at 3 volts. Since it was introduced in the U.S., it has been lopping seconds off lap records with startling ease! Running strictly stock, **54 / model car science**



The new "Competition" Asp looks even longer and lower than the earlier version — because it is! The new Asp is on the left. Note the increase in track, decrease in wheelbase, and a much longer nose for "cleaner" penetration of air.

they're real terrors! Naturally the hop-up boys took this motor to their hearts immediately, and some of the rewound (!) versions that are improved to the last degree with heavier brush springs, shimmed magnets, altered timing and careful attention to detail, just plain sing a siren-song of pure power! You have to see one in action to appreciate it!

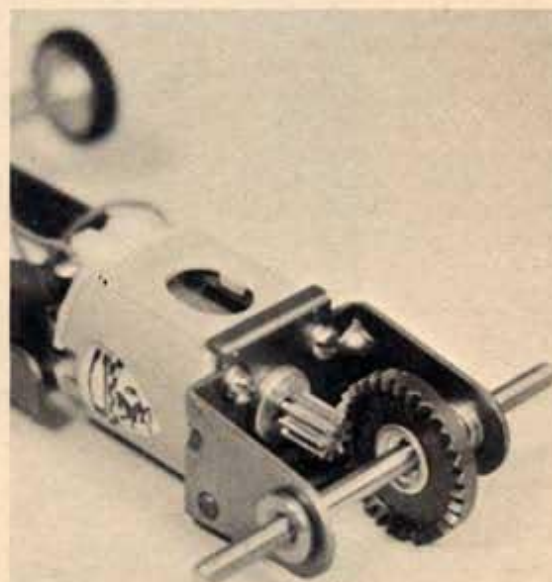
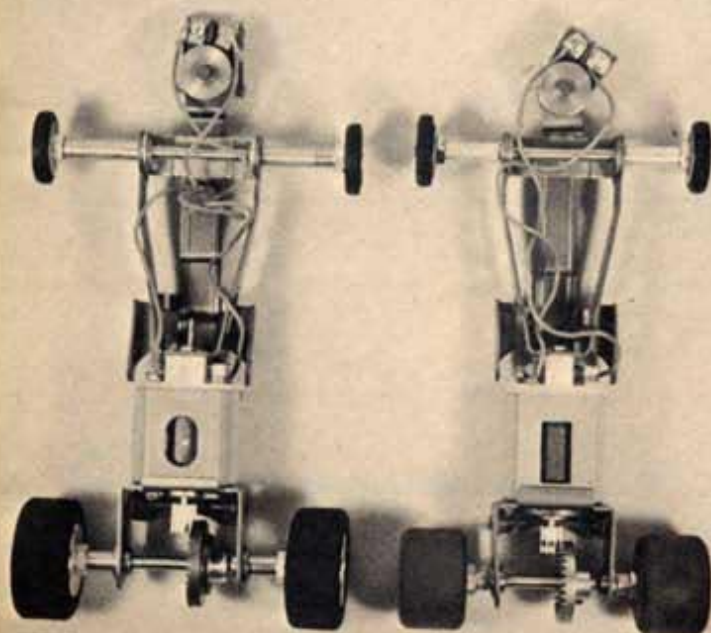
Anyway, *that's* the kind of motor the

new Asp uses. It's "stock", but terribly rapid! A new pleasant hour's work over one of these motors will give you even *more* urge!

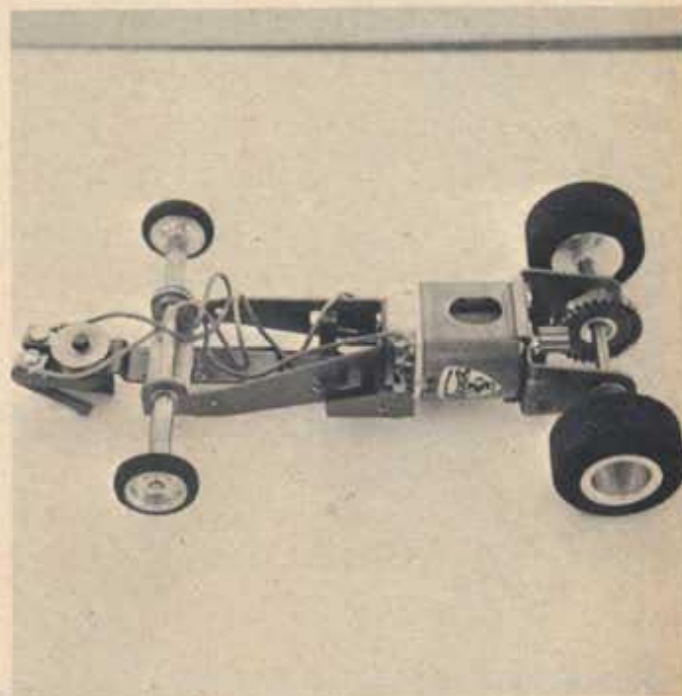
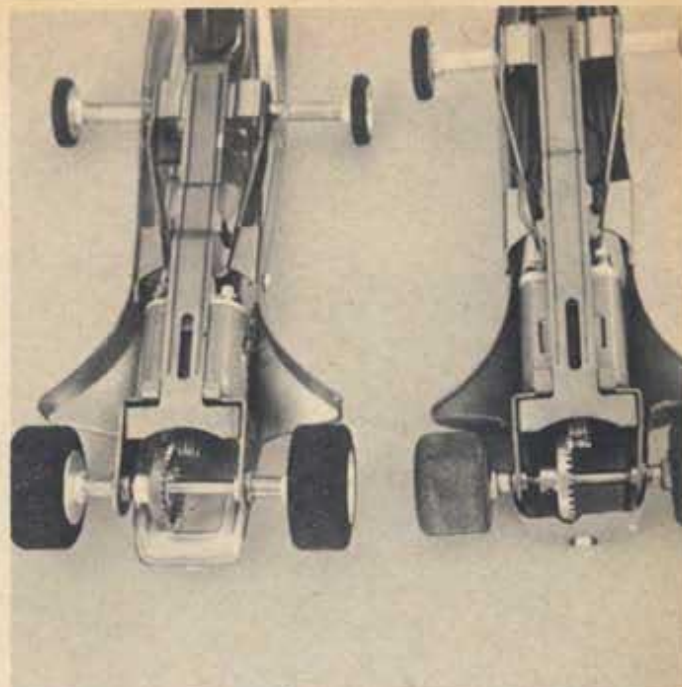
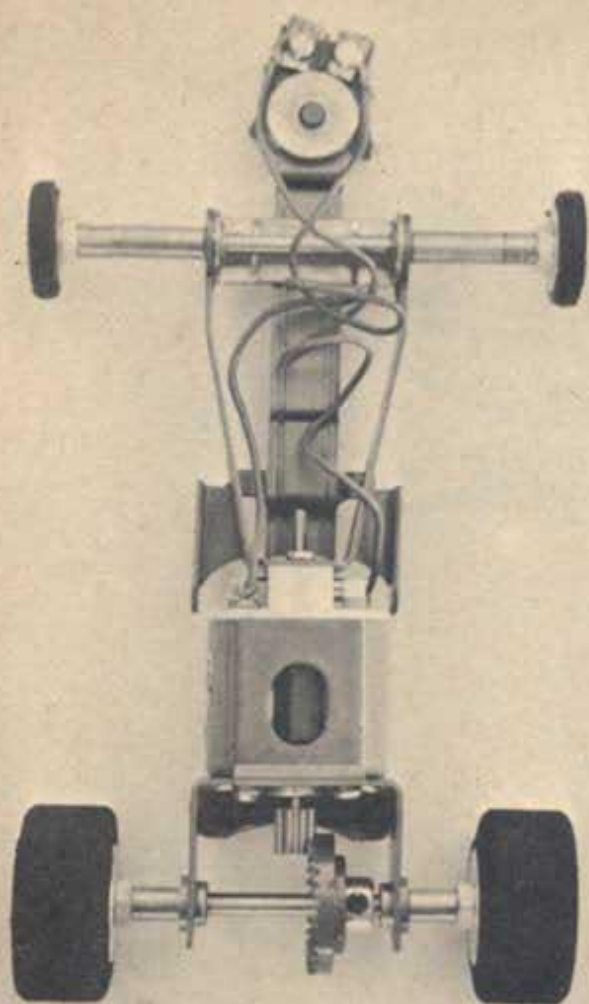
Naturally a new chassis had to be designed to accept this motor, due to its different configuration. Basically the frame follows the same design as the older Asp unit, and you'll still find the limited-drop pickup arm pivoting from



The Competition Asp features a slightly higher rear deck "spoiler" and a revamped body shell, to compensate for the slightly "beefier" 26-D motor. Aerodynamics are considerably improved over the old version. On high speed tracks the car is noticeably more stable.



With the chassis side by side, you have to look pretty close to find the subtle changes that have been made. The new Asp is on the left. Main changes are in the motor, gear, and tire department. That rear axle bracket has to be one of the strongest on the market. Lamentably, gone are those great rear axle ball bearings.



The new Asp features a long, limited-drop pickup that pivots from behind the motor, just like the old Asp. The limited-drop feature is a great aid to corner marshals, as it eliminates a wildly-flopping pickup arm.

way back in the frame, behind the lower rear part of the motor case. The rear axle bracket has to be the most rigid on the market. Gone is the old brass gear, and in its place you'll find the new "Classitron" plastic gears. These require no lubrication and run very quietly and are most efficient. Really a great improvement in the gear department, in my opinion.

They've widened the track, but shortened the wheelbase on this new Asp, dubbed the "Competition Asp". Classic also found that a bit of weight, placed down low in the front of the chassis, helped the handling. The new Asp uses a heavier brass front axle support instead

of the light aluminum unit found in the earlier version. Owners of early Asps, pay attention, here's a detail improvement that you can carry out on your car, quickly and cheaply. That should be a snap to cut out and fold up!

The Competition Asp costs just \$12.98 too! That's \$1.97 cheaper than the older version. However, you never get "sumpin' for nuttin'," and this is no exception. Gone are the ball bearings in the rear axle housing. The Competition Asp uses oilites instead. If I wanted to modify the new Asp, that's the first place I'd start! Also gone is the extra front chassis and a 1/32 clear plastic Maserati GP body, which allowed conversion of this small

1/24 scale car to a hot 1/32 car.

The handling department received its biggest "shot in the arm," however, from the use of the new "closed-cell" sponge tires. The early Asps used a very wide slick. The latest Asp uses much narrower, but far more efficient "Micro-Cell" foams. And man, they stick!

How does the new Asp handle? Les'ee, I don't have that many superlatives in my vocabulary! Let's put it this way — the driver is now the "weak link" in this new competitive team consisting of you and the car! Sharpen up your reactions to a scalpel edge, and you and your car should be able to shred your local lap record with discerning ease.

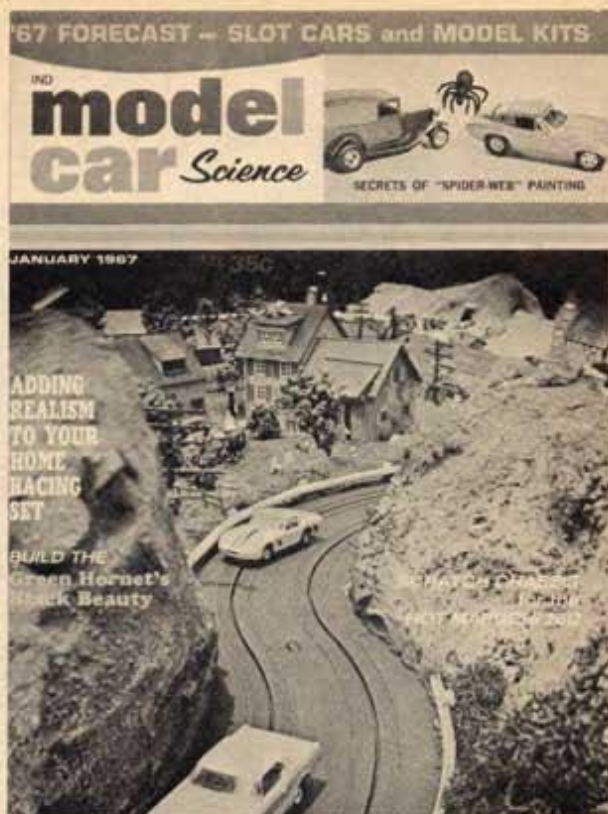
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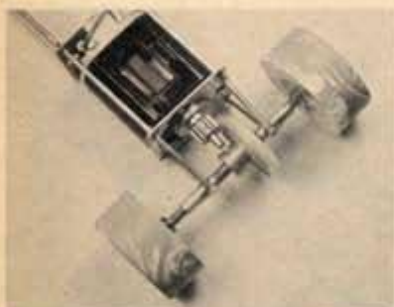


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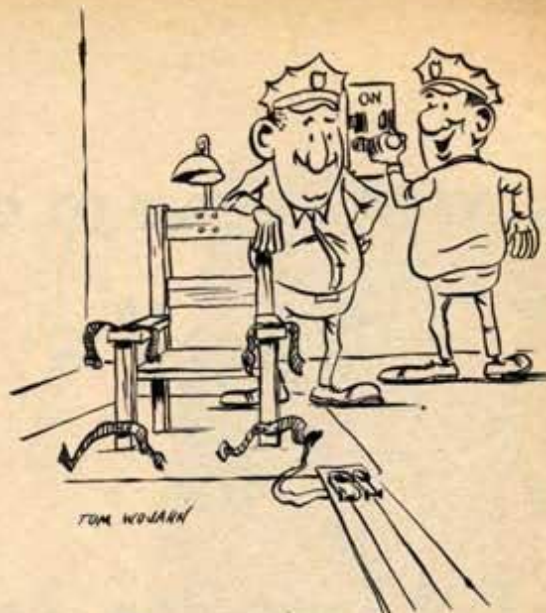
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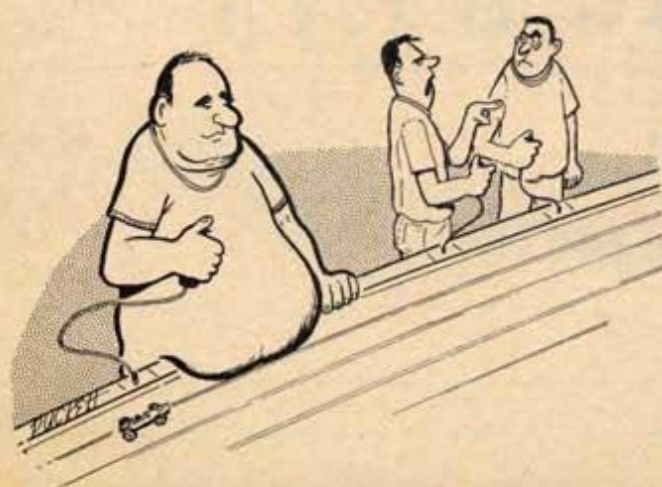
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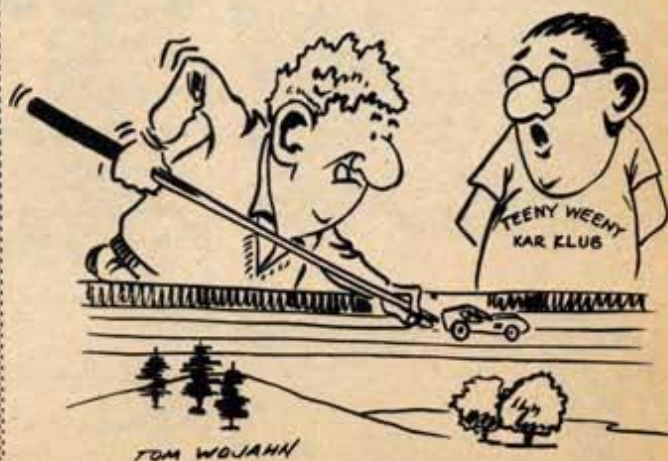
"... Here comes 20,000 volts!!"



"... It started after I lied about my gear ratio ..."



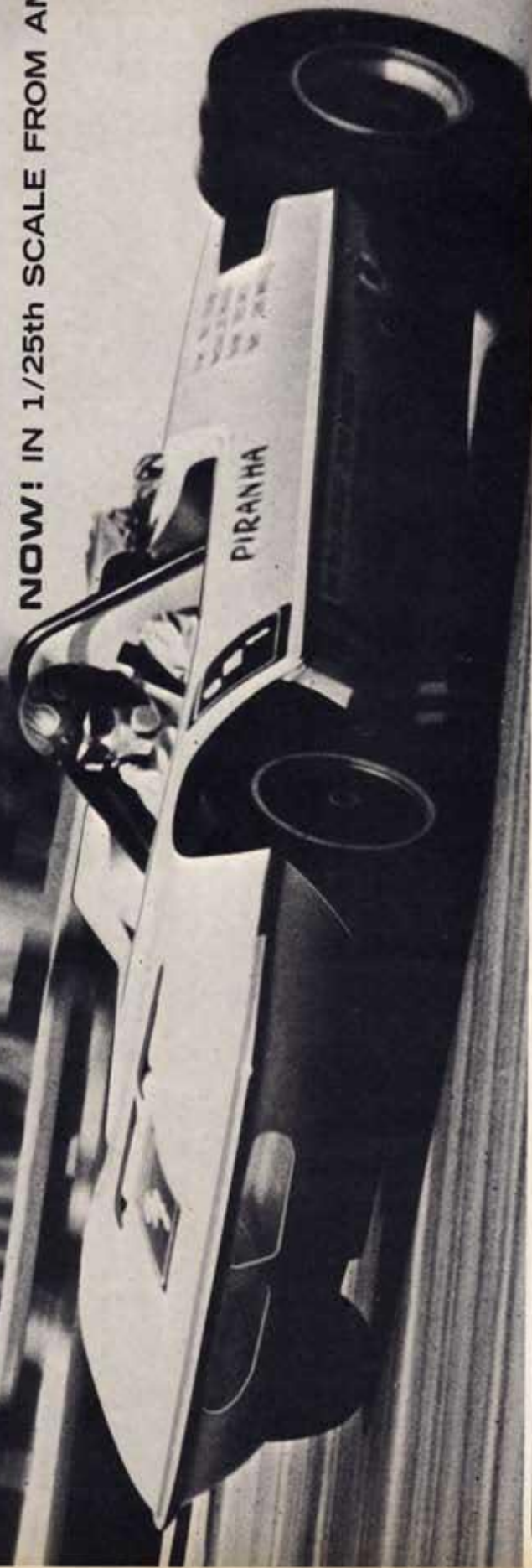
"... You go tell him, it's your lane!"



"... Ever think of buyin' a hand controller, Figby?"

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